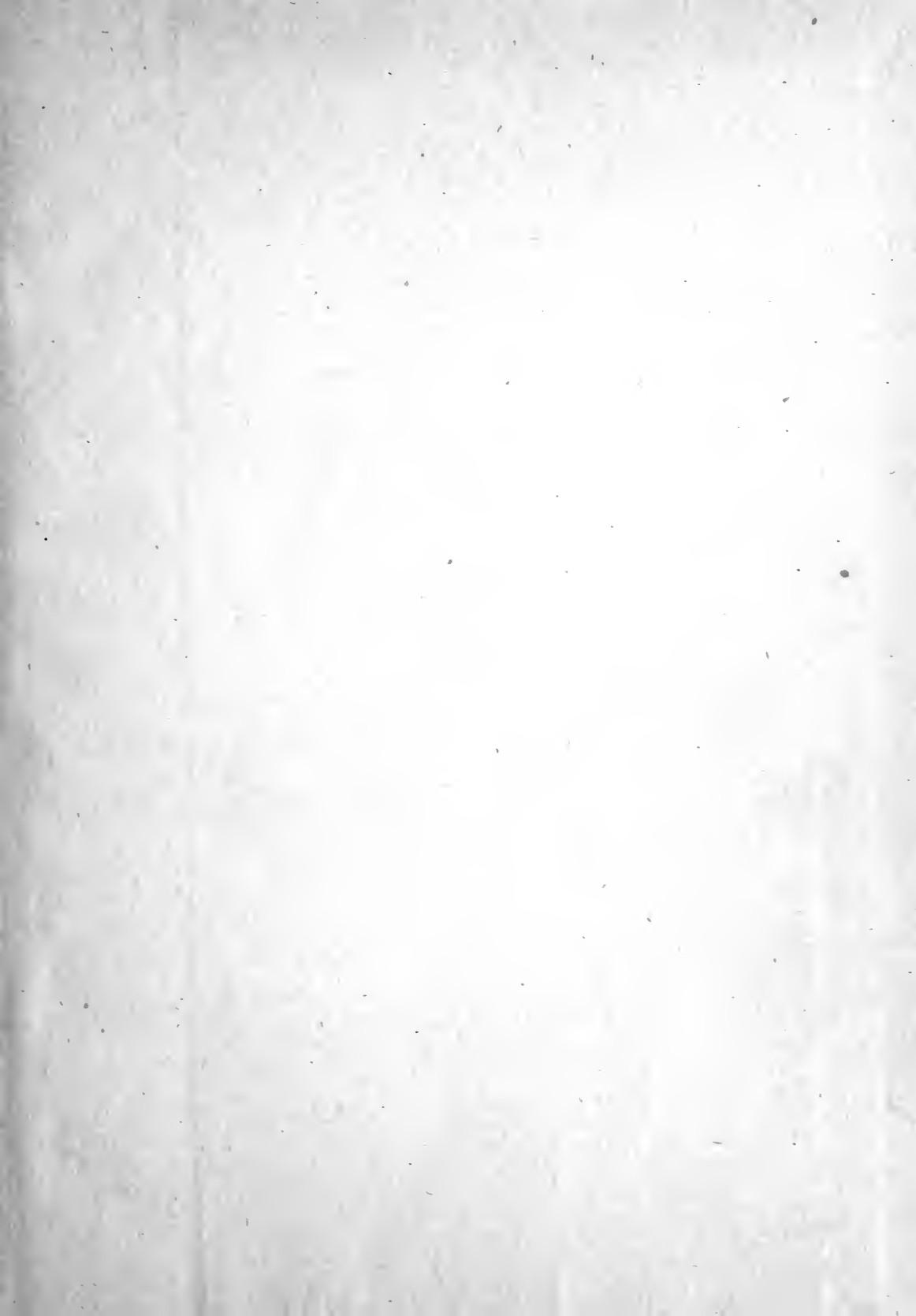


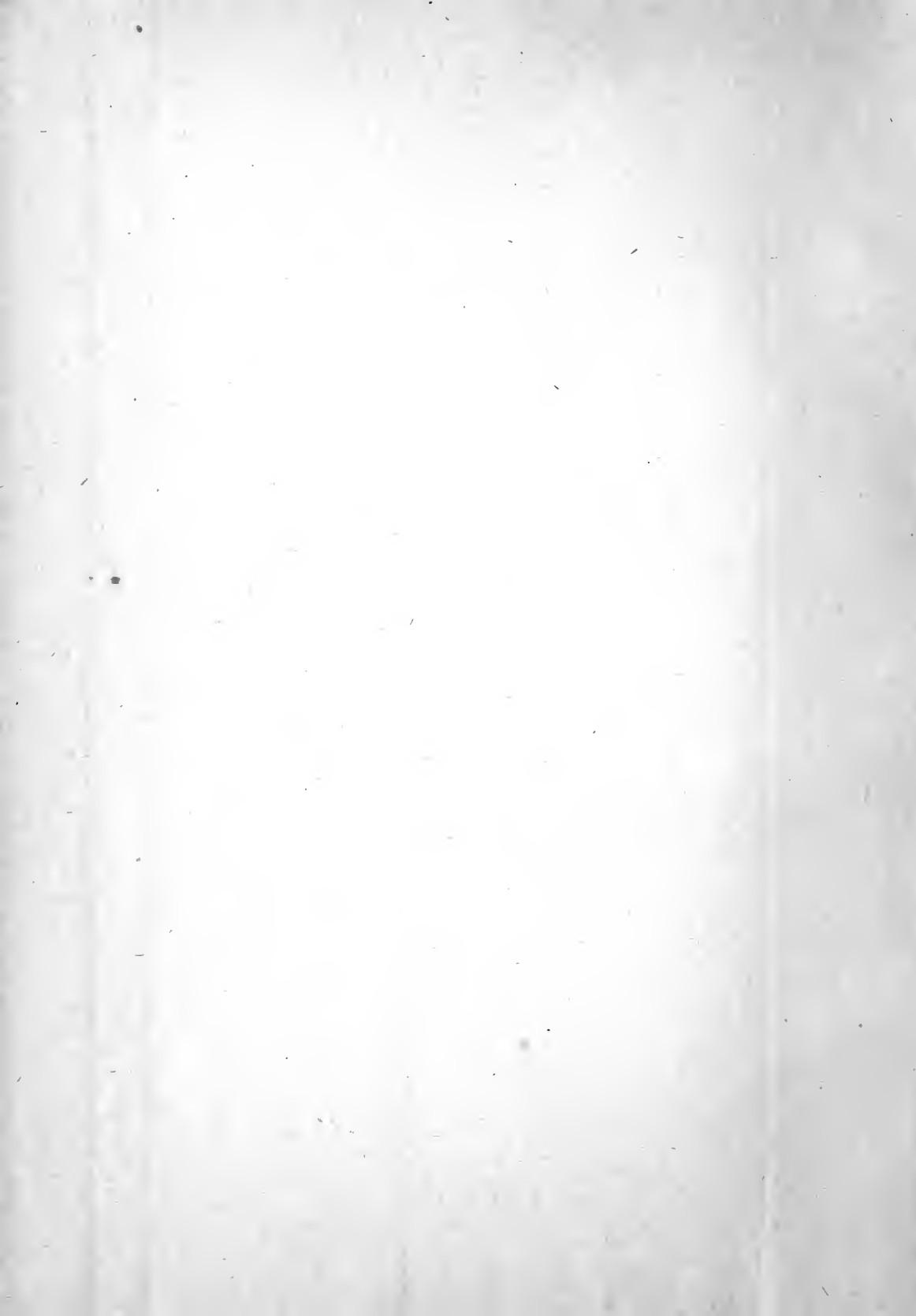


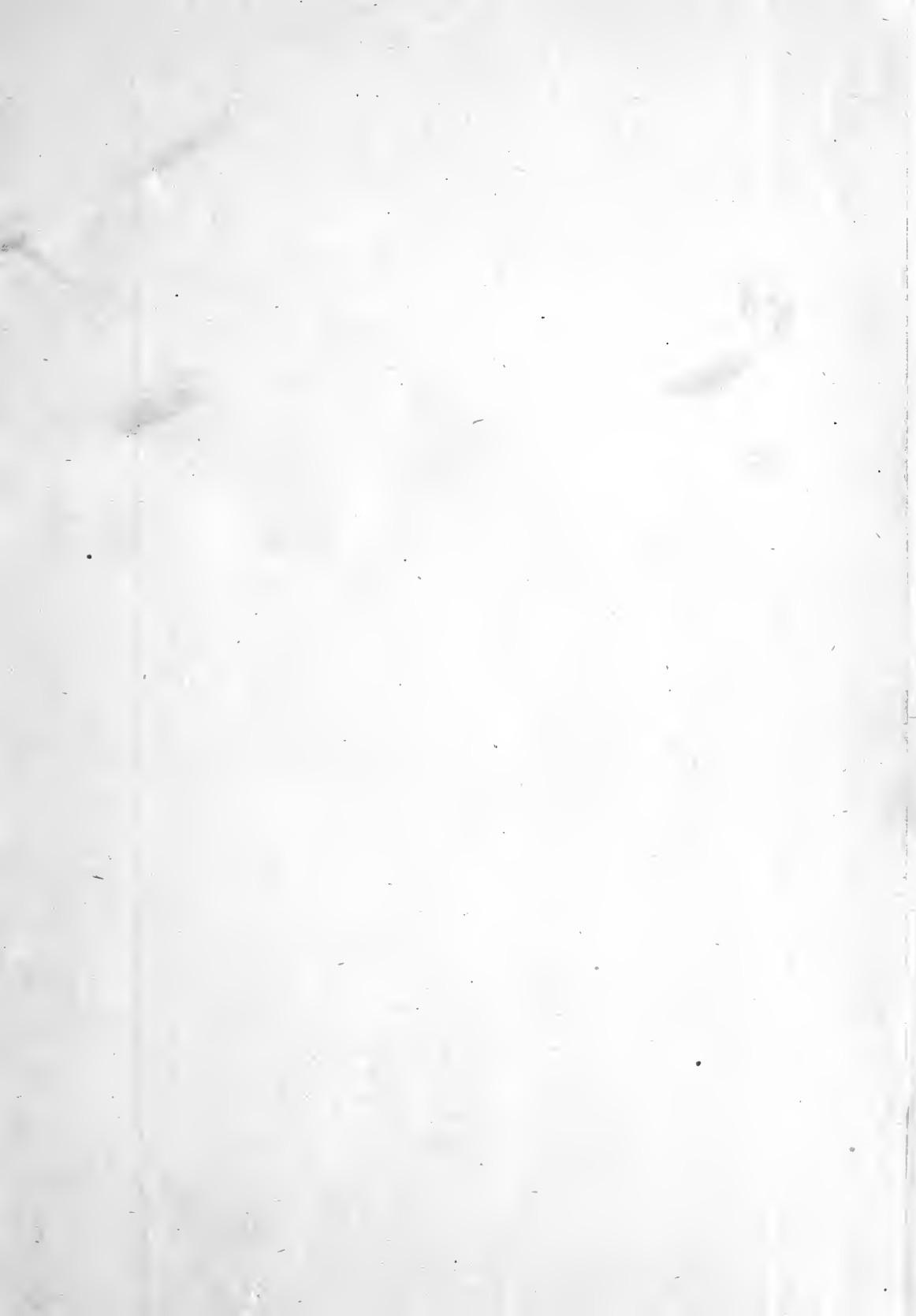
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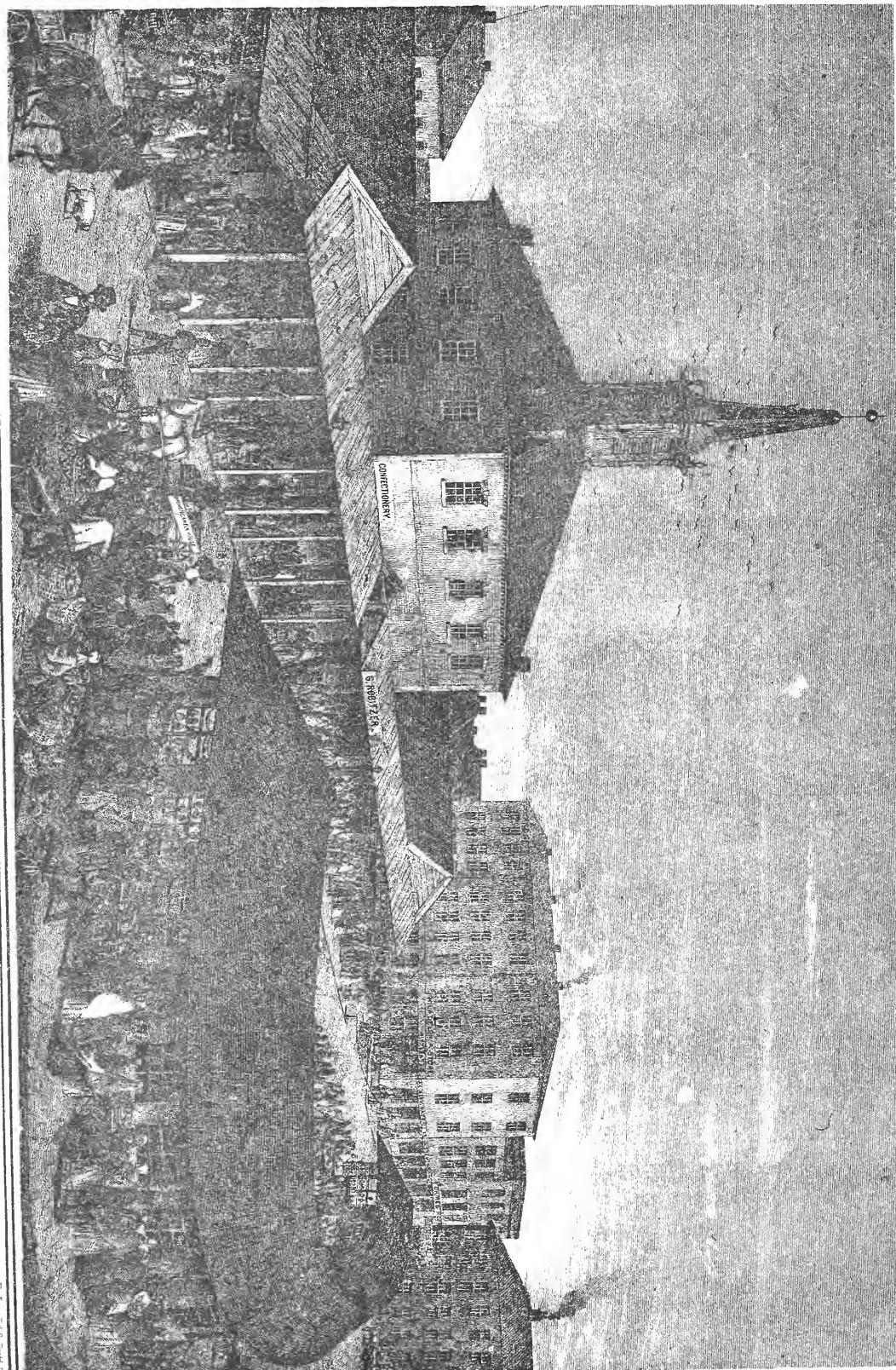
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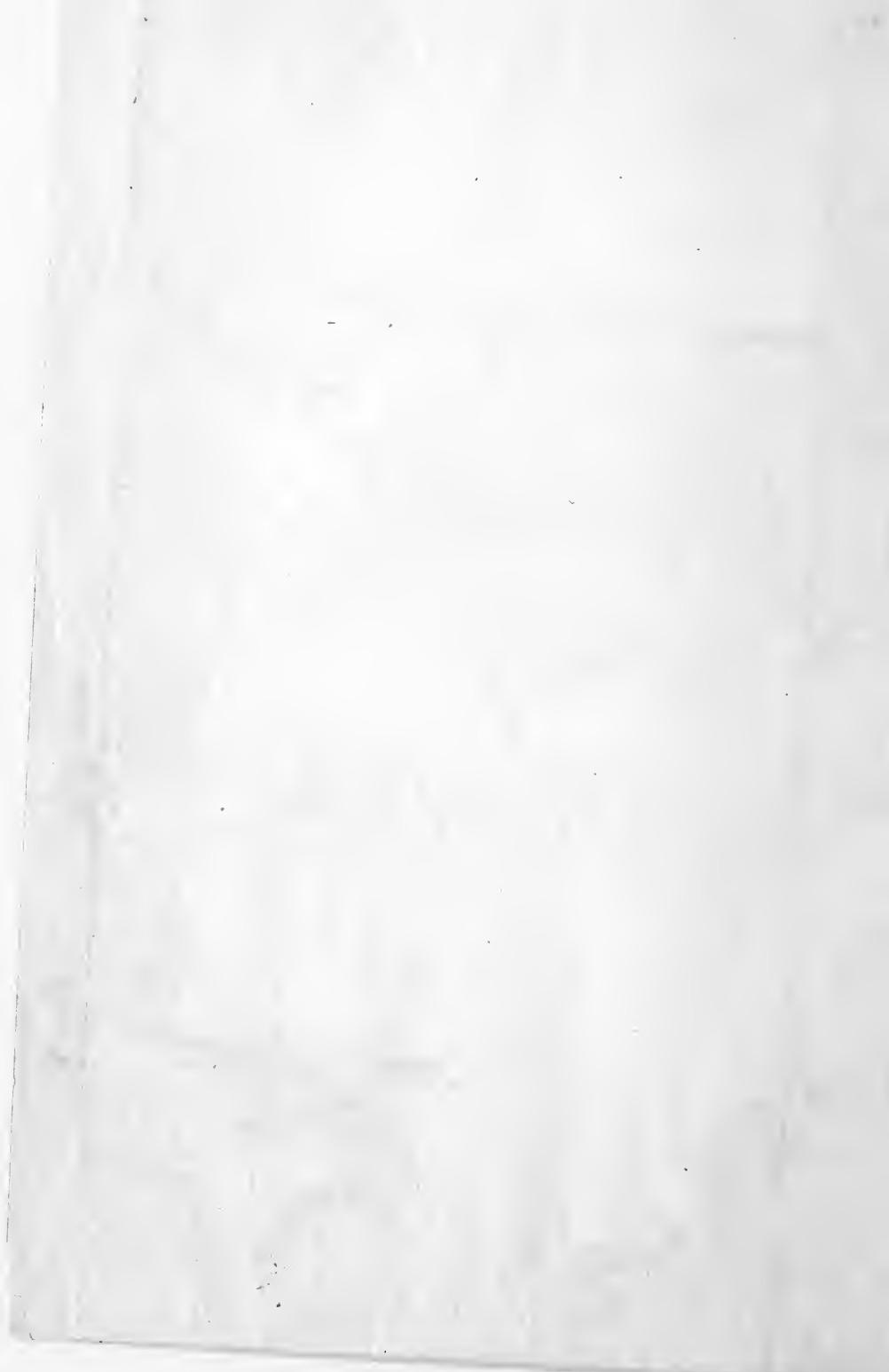
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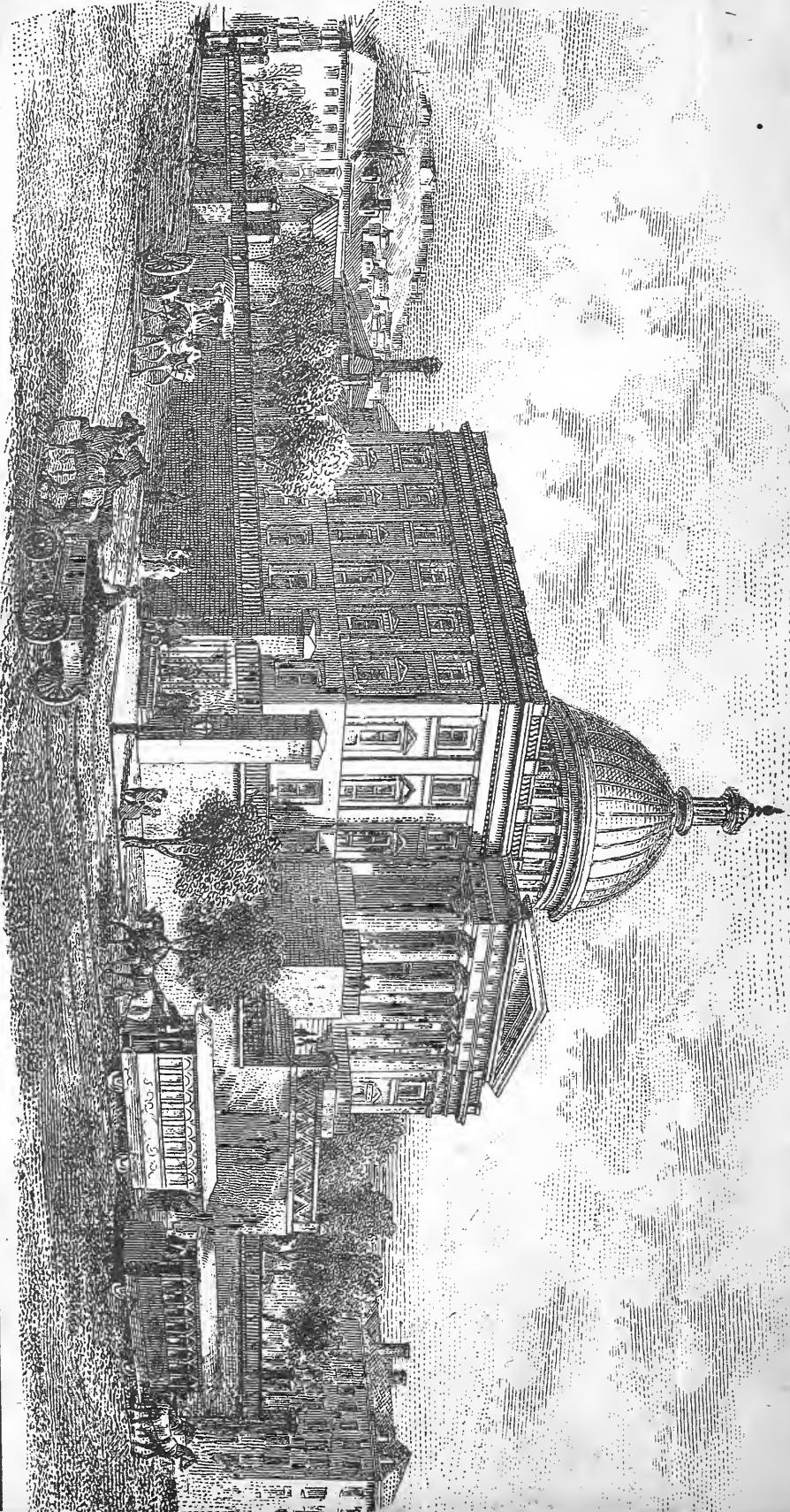
ALLEGHENY COUNTY COURT HOUSE.

COMPLETED APRIL 1888.





COURT HOUSE DESTROYED BY FIRE MAY 7TH 1882



Allegheny

County's - *Part*

Hundred Years.

— BY —

GEORGE H. THURSTON.

PITTSBURGH:

A. A. ANDERSON & SON, BOOK AND JOB PRINTERS, 99 FIFTH AVENUE.

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P R E F A C E .

This volume is not published as an elaborate history of a hundred years. It is simply intended as a handy book of the more prominent and leading events in Allegheny county during that period.

Nor is the narration of the growth of its industries designed to be an exhaustive account of them, which of themselves would far outrun the pages to which the publisher proposed limiting this volume. As it is, the impossibility of confining within that scope even such a condensed exhibit of Allegheny county's manufacturing progress and commercial interest, has caused it to overrun the limit prescribed. Even then much has been omitted that there was every temptation to dilate upon, although it is hoped that sufficient has been said to present such an account as will render the book an acceptable souvenir of the celebration of the county's centennial.

It is believed that the statistics of the various interests are nearly accurate, although the extreme difficulty of obtaining them, from indifference or procrastination of those that should be interested therein, has caused some of the more important industries and mercantile interests to be incomplete in their exhibit. This, especially, in biographical data, has been discouraging. *Rip Van Winkle* is made to say, in Jefferson's play of that name, when he wanders back to the village of Falling Water after his twenty year's sleep, "How soon we are forgot when we are dead." Poor old "Rip's" reflections have arisen often in the compiler's thoughts while preparing this volume, and a sad amazement at the rush and roar and exacting demands of the business life of to-day, sweeping with its furious current details of the lives of those who, from family, social, or business relations should be remembered, from the minds of those who might be expected to hold them in remembrance.

It is well for the human race, if the records of the past are of any value, that the art of printing was invented, for it is only in books that the lives of men, the records of industrial progress, and the lessons of political events are preserved. Manuscripts might have done so to some extent, but in this mighty flood of progress they would have been no more than the birch canoe is to the huge steamers and the immense trains of burden cars in the transportation of the commerce of the world. Such chronological record of successors of firms in the various industries of Allegheny county, and such biographical mention as are contained in this volume are submitted not as all that should be written, or even as in those cases complete, but as so much reserved from the engulfling waves of time.

Keats, in his ode to the Nightingale, writes, "No hungry generations tread thee down." The generations of to-day are hungry, not for food, but for wealth and power, and tread upon another's heels so fast and ruthless that they trample into forgetfulness the acts and lives of their predecessors. Memories fade, monuments decay with years, and even solid edifices are erased before the wave of progress, but books live. Perchance, then, something in these pages will preserve facts and memories, else lost, valuable in the future and of interest now.

The narrator of this panoramic history of Allegheny County's Hundred Years Years lays down his pen wondering at its growth, regretful to leave so much unsaid, impressed with the importance the county has been in the political development of the nation, the settlement of the west, the progress of manufacturing in the past, and convinced, unless there is some radical change in human affairs, that prominent as the county has been it will be more so in the future; that great as has been its progress in the years that are gone, it will be greater in the years to come. That the elements of manufacturing industry concentrated in and around the county, its geographical location, its transportation advantages, and the knowledge and skill acquired by its great army of mechanics, must result in a development as great in the next hundred years as in those past, unless all the factors now potent in the progress of the world cease.

CHAPTER I.

From 1754 to 1788.

From 1788 to 1888, comprises a wonderful century in the development of the industrial arts, and the commercial faculties of the world. The century that has witnessed the birth of the steamboat, the locomotive, the telegraph, and its cognate electrical appliances. The hundred years in which man has demonstrated his power of self government; and a nation, that stands now the foremost of the world, has risen to the grandeur of a leader of the nations in all that points to a higher civilization, and a broader Christianity and the equality of man before law and his fellows. Allegheny County has, in that century, made a marked impress and contributed its full share in the development of the arts whereby men earn their bread, and attain wealth. First and foremost in many of the advances in commercial facilities it has been no laggard in those that opened the way to a broader civilization, and the elevation of men, nor has its voice been silent where political rights were to be maintained, or wrongs righted.

To sketch the story of Allegheny County's hundred years is to paint the panorama of the march of civilization into the Ohio and Mississippi valleys. Through her territory marched the advance columns of emigrants, and for years and years the wharves of her great city, Pittsburgh, witnessed the embarkation of thousands and thousands, who laid the foundation of the great western States. Her soil is classic ground in the nation's history. On it France and England strove to hold the empire. On it the footsteps of men grand in history have left their impress. To tell of the development of the industries of the nation is to describe the growth of Allegheny County's mills, furnaces, and forges; the progress of transportation facilities; and the emancipation of the nation in steel and glass and copper, from a tributary condition to Europe. In the latter half of the eighteenth century a most important point in the view of rival European nations, Allegheny County, as it rounds her hundred years, is the most prominent county in the nation of sixty millions of people, and of marked interest to every manufacturing community in the old world. Well may her citizens celebrate with pride her centennial year.

To establish the date at which the history of Allegheny County considered as an integral portion of Pennsylvania begins, is difficult. Remotely it is not unconnected with the arrival of William Penn in the new world, late in the fall of 1682, as from that time gradually cumulated the events that led up to the more striking incidents in the earlier historic annals of the country. It is in 1744, when hostilities were declared between France and Great Britain, that the more salient points became apparent that tended so directly to render the territory, out of which was finally formed Allegheny County in 1788, an important center.

To the natural transportation facilities afforded by the Ohio and its confluents at the point of land now occupied by the city of Pittsburgh, is largely to be attri-

buted to the tendency of events thither. In 1744, a treaty was made with the Delaware Indians, by which they ceded to the king of Great Britain all the lands in the bounds of Virginia. In 1748, Thos. Lee, one of his Majesty's council in Virginia, proposed forming a settlement in the wild lands west of the Allegheny mountians, and he associated with himself Thomas Hanbury, a merchant of London, and twelve other persons in Virginia and Maryland, among whom were Lawrence and Augustus Washington, brothers of George Washington. They formed "The Ohio Land Company," to which was ceded by the King one half million acres of land to be taken chiefly from the territory on the south side of the Ohio river, between the Monongahela and Kanawha rivers. Before this date no English residents occupied this region. A few traders mingled with the tribes, but neither occupied nor cultivated the lands. These lands were ceded on very easy terms, which were that 200,000 acres should be immediately selected and be held for ten years free from any quit-rent or tax to the King, on condition that 100 families should be seated upon them within seven years, at the company's expense, a fort built, and a garrison maintained to protect the settlement. The Ohio Company appear to have erected a storehouse at Redstone creek, now Brownsville, and to have made a small establishment at the forks of the Ohio; but the disturbed state of the frontier prevented them from bringing any large amount of goods beyond the Allegheny mountains. The French war interrupted their operations entirely, and the company was, in 1770-72, merged in a more extensive one in which Thos. Walpole, Dr. Franklin, and Gerge Pounal were interested.

The Revolution breaking out about that time put an end to the company, and the title to their lands was never perfected. The formation of this company is closely allied with and provocative of some of the early events in the territory that subsequently became Allegheny County, a portion of the lands of the Ohio Company being now within its bounds. In 1752, Mr. Christopher Gist was sent to explore the county. In his journal he states that he went from Virginia to the Juniata, which he ascended, and descended the Kiskiminitis to the Allegheny. This latter river he crossed a little below where Sharpsburg now is, and passed on to the Ohio, and around the county on the south side of the Ohio as far as the Kanawha. In 1752 a treaty was held with the Indians at a point called Logstown, about fourteen miles below the present city of Pittsburgh. Soon after this treaty Gist was directed to lay off a town and a fort near the mouth of the Chartiers creek.

In the fall of 1753, Major George Washington was sent by Governor Dunwiddie to report on the lands held by the State of Virginia on the Ohio, *and those ceded in 1748 to the Ohio Company.*

In his report Washington writes:

"The excessive rains and the quantities of snow which had fallen prevented our reaching Mr. Fraziers, an Indian trader at the mouth of Turtle creek on the Monongahela river, till Tuesday, the 22d, (November.) We were informed here that our express had been sent a few days before to the traders down the river, to acquaint them with the death of the French General and the return of the

major part of the French army to winter quarters. The waters were quite impassable, without swimming our horses, which obliged us to get the loan of a canoe from Frazier, and to send Barnaby Currin and Harry Stewart down the Monongahela with our baggage to meet us at the forks of the Ohio, about ten miles, there to cross the Allegheny. As I got down some time before the canoe, I spent some time in viewing the rivers and the land in the forks, which I think extremely well situated for a fort, as it has absolute command of both rivers. The land at the point is twenty to twenty-five feet above the common surface of the waters, and a considerable bottom of flat, *well timbered land* all around it, very convenient for building. The rivers are each a quarter of a mile or more across, and run here very near at right angles. The former of the two is a very swift and rapid running water, the other deep and still without any preceptible fall. * * * * * About two miles from this on the south east side of the river at the place where the Ohio Company intend to erect a fort, lives Shingiss, King of the Delawares."

Of this residence of Shingiss, Neville B. Craig says in the Pittsburgh *Gazette*, in 1841, "Our late esteemed friend, John McKee, Esq., has often pointed out the place where Shingiss resided. It was near the river and near McKee's Rocks."

The prominence of George Washington in the history of the nation, gives an interest to any location in Allegheny County where he stood. On November 22d, 1753, he was at the mouth of Turtle creek, on the 23d, at the point where the Allegheny and the Monongahela unite. A month later, returning from his visit to Fort Le Boeuf, in what is now Venango County, on foot with his guide, Mr. Gist, he was thrown from a raft while crossing the Allegheny, on December 26th, 1753, and narrowly escaped drowning in ten feet of water running thick with ice. Extracting himself with great difficulty he managed to reach an island, where he and his companion remained until morning. That island is now part of the bank of the river, through the filling up of river channel between it and what was at that time the shore. It was what was called "Wainright's Island" opposite the foot of ~~Eighth~~ street of the present city of Pittsburgh.

The next morning they crossed on the ice to the main land. Current old time authorities indicate that they landed near where the Sixteenth street bridge now stands.

At the time of the battle of Braddock's Fields, in 1755, Washington was again an actor in the historical incidents of Allegheny County, and in 1770, on his return from an examination of lands on the Kanawha, appropriated among the soldiers who served in the French war, he spent all of the 22d of November at Fort Pitt.

From 1753, the historical events that cluster around the territory that was, in 1788, organized as Allegheny County, began to thicken. In 1753 the French were busy in carrying out their scheme of uniting Canada and Louisiana by a line of forts. One of these was to be located at the present site of Pittsburgh, and one at Logstown. The one at Logstown it would appear the French had erected before, or about the time of the building of Captain Trent's stockade at the junction of the Allegheny and Monongahela rivers, as the following entry in the records at Harrisburg would indicate :

"March the 12, 1754, evidence sent to the House that Venango and Logstown, where the French Forts are built, are in the province of Pennsylvania."

At this date there was a controversy between the States of Virginia and Pennsylvania about the ownership of the territories at and around the forks of the Ohio. Under date of March 21, 1754, Governor Dunwiddie, of Virginia, writes to Governor Hamilton of Pennsylvania—"I am misled by our surveyors if the forks of the Monongahela be within the bounds of Pennsylvania."

This claim was probably, in some measure, based on the ceding of lands to the Ohio Company, composed principally of citizens in Virginia, by the King in 1748. A double contest for that portion of territory was beginning. The French and English were about to cross swords for it, and Virginia and Pennsylvania were contending for it. This latter claim lasted for nearly twenty years, and was the occasion of much angry feeling.

The letter of Governor Dunwiddie, before quoted, was dated March 21, 1754, but a month earlier Captain Trent had begun the erection of a stockade for the defence of the point against the threatened occupation of the territory by the French, and possibly in protection of the Ohio Company grant, by which they were to erect a fort for the protection of the settlers. This movement resulted from the visit of Washington, in November of the preceding year, to examine the lands of the Ohio Company. On his report to Governor Dunwiddie, two companies were immediately, on Washington's return to Williamsburg, Va., ordered to the "forks" to erect a fort. One company under the command of Captain Trent, being ready, marched promptly, and on the 17th of February, 1754, they were busy erecting the little stockade which was, on the 24th of April, surrendered to Captain Contrecoeur by Ensign Ward, then in command—Captain Trent being away at Wills Creek, near Cumberland, and Lieutenant Frazier at his residence, near Turtle Creek.

As mentioned previously, Mr. Gist and Col. Fry, on the part of Virginia, had concluded a treaty with the Indians at Logstown, by which the Indians agreed not to molest the settlements of the English on the south-east of the Ohio, but refused to recognize any English title to the land, denying that a previous treaty at Lancaster had been made with their consent, or that it conveyed any land west of the Allegheny mountains. The Ohio Company made an attempt to settle their lands with German emigrants in an effort to carry out the condition by which the lands were ceded to them.

The system of English episcopacy which prevailed in Virginia, and demanded church rates from dissenters, was repulsive to the Germans, and they preferred to settle in the province of William Penn. To the understanding at the present day, of this apparent confusion as to the territory of Pennsylvania, it should be remembered that the whole valley of the Monongahela, including the country around the forks of the Ohio, was for many years supposed to be in Virginia. A great part of the land titles in this region originated from patents granted by the Governors of that State.

In October, 1753, Major George Washington, then twenty-one years of age, while on his way to the commandment of the French forces at Le Boeuf, called at

Mr. Gist's plantation, who had built himself a cabin soon after the Logstown treaty, at a point since called Mount Braddock. Receiving to his inquiries unsatisfactory information as to the designs of the French, he made a report to Governor Dunwiddie, of Virginia, who made preparations to repel their encroachments. A regiment was raised under the command of Col. Joshua Fry, for the purpose of erecting a fort at the forks, of which Washington was appointed Lieutenant Colonel, and Captain Trent's company was hurried forward to erect the fort, which, as previously narrated surrendered to the French under Captain Contrecoeur, with a force of one thousand French and Indians, he having also eighteen pieces of artillery.

Captain Contrecoeur at once began the erection of Fort Duquesne, a plan of which is one of the illustrations of this volume. This sketch was made by Captain Strobo, who, at the surrender of Fort Necessity, at Great Meadows, by Washington, July 3d, 1754, was detained as a hostage by the French. The drawing was made on the back of a letter written July 29th, 1754, by Captain Strobo to Governor Morris, of Pennsylvania, and sent by an Indian, urging an attack on the fort.

In that letter Strobo writes: "There are but two hundred men here at this time, two hundred more are expected in a few days; the rest went off in several detachments to the amount of one thousand, besides Indians. The Indians have great liberty here, and go in and out when they please without notice. If one hundred trusty Shawnees and Mingoes and Delawares were picked out they might surprise the fort, lodging themselves under the platform behind the palisades by day, and at night secure the guard with their tomahawks. The guard consists of forty men only and five officers. None lodge in the fort but the guard, except Contrecoeur, the rest in bark cabins around the fort. All this you have more particularly in yesterday's account. La Force is greatly needed here. Let the good of the expedition be considered before our safety. Haste to strike."

On July 9, 1755, occurred the battle between the French under Dumas and Beaujeu, with their Indian allies, and the English under Gen. Edward Braddock, with which was inaugurated the effort of Great Britain to wrest from the French the control of the west. Four days previous, on July the 5th, the French and the Indians at Fort Duquesne were thrown into a state of great excitement by the report brought by out-lying scouts that Braddock with a formidable army was approaching. The French commandant's force was small, and the fort incapable of resisting the lightest field-pieces. The commandant had abandoned the idea of resistance, when Capt. Beaujeu proposed to take a detachment of French and Indians and intercept Braddock on his march. The Indians declared the project foolhardy, and declined to go. After repeated urging by Beaujeu they consented. On the 7th of July Braddock was but eighteen miles distant, and on the morning of the 9th the French and Indians marched on what was thought by nearly all to be a hopeless expedition. This force ambushed themselves at the point now occupied by the town of Braddock. At that time the ground was com-

pletely covered with forest, which hid from view deep ravines of ten to twelve feet depth, in which the French force concealed themselves. Of their numbers, Neville B. Craig, in his mention of this event, while giving no account of the battle, says: "The lowest estimate reduces the number of white men to two hundred and thirty-five, and the number of Indians to six hundred."

Gen. Braddock, with 1,200 men and officers, moved from the north side of the Youghiogheny on the morning of the 9th. Of this Washington, who had been ill with a fever and joined the forces on the 8th, writes in a letter written after the battle: "On the 9th, the day of the battle, I, although very low and weak, attended the General on horseback. The army crossed the left bank of the Monongahela a little below the mouth of the Youghiogheny, being prevented by rugged hills from continuing along the right bank to the fort."

Sparks, in his "Life and Writings of General Washington," writes: "Washington was often heard to say during his lifetime that the most beautiful spectacle he had ever beheld was the display of the British troops on this eventful morning. Every man was dressed in full uniform; the soldiers were arranged in columns, marching in exact order." Captain Orme, an aid of Braddock's, in a letter dated at Fort Cumberland, July 18, says: "The 9th inst. we passed and repassed the Monongahela by advancing, first a party of three hundred men, which was immediately followed by another of two hundred. The General, with the column of artillery, baggage and main body of the army, passed the river the last time about one o'clock. As soon as the whole had arrived on the fort side of the Monongahela we heard heavy and quick firing in our front."

Colonel Burd, who received his information from Colonel Dunbar at Fort Cumberland, writes: "The battle began at one o'clock of the noon and continued three hours. The enemy kept behind trees and logs of wood, and cut down our troops as fast as they could advance. The soldiers insisted much to be allowed to take to the trees, which the General denied, and stormed much, calling them cowards, and even went so far as to strike them with his own sword for attempting to take to the trees. Our flankers and many of our soldiers that did take to the trees were cut off from the fire of our own line, as they fired their platoons wherever they saw a smoke or fire. One-half of the army engaged never saw the enemy. * * * * The General had with him all his papers, which are entirely fallen into the hands of the enemy, and likewise twenty-five thousand pounds in cash. The loss of men, as nigh as Colonel Dunbar can compute at that time, is seven hundred killed and wounded (about one-half killed) and forty officers."

Colonel Washington writes to his mother, on July 18, from Fort Cumberland: "We were attacked by a party of French and Indians, whose number did not, I am fully persuaded, exceed 300 men, while ours consisted of about 1,300 well-armed troops, chiefly regular soldiers, who were seized with a panic and behaved with more cowardice than it is possible to conceive. The soldiers behaved gallantly, * * * there being nearly sixty killed and wounded. The Virginia

troops showed a good deal of bravery, and were nearly all killed. * * * The General was wounded and died three days after. I luckily escaped without a wound, though I had four bullets through my coat and two horses shot under me."

It has always been a tradition that General Braddock was killed by one of his own men. On that point, the Hon. Andrew Stewart, of Uniontown, said in his lifetime that he knew and often conversed with Tom Fausett (who was supposed to have shot Braddock), and that he did not hesitate to avow in the presence of his friends that he had shot the General. Fausett was a man of gigantic frame, of uncivilized, half savage propensities, and spent most of his life among the mountains. He would occasionally come into town and get drunk.

Sometimes he would repel inquiries into the affair of Braddock's death by putting his finger to his lips and uttering a buzzing sound; at others he would burst into tears. In spite of Braddock's orders that the troops should not protect themselves behind the trees, Joseph Fausett had taken such a position, when Braddock rode up in a passion and struck him down with his sword.

Tom Fausett, who was but a short distance from his brother, seeing the transaction, immediately drew up his rifle and shot Braddock through the lungs, partly in revenge of his brother, and, as he always alleged, to get the General out of the way and save the remainder of the band, who were being sacrificed through his obstinacy.

On the side of the French it is to be recorded that Beaujeu fell at the first fire, and under Captain Dumas the victory was gained.

These are the main incidents of the battle of Braddock's Field, as the scene thereof was long called, but is now known as Braddock, the title of a borough of some 9,000 or 10,000 inhabitants, whose dwellings and workshops cover the area of the fight, and where the largest steel works in the United States is situated. The forest and the ravines where the French troops ambushed have been obliterated by the improvements.

From the date of this battle there are few or no records that are germane to the public history of Fort Duquesne, or of the territory that became organized or incorporated as Allegheny county until 1758. At that date the whole area west of the Alleghenies was a vast wilderness, having no governmental bounds or government, except such as might be claimed by the Provinces of Pennsylvania or Virginia under quasi-treaties with the Indian tribes who still asserted their territorial rights and disputed the accession of their lands. Therefore, in sketching what may be termed the period of gestation of Allegheny county, it is difficult to avoid touching upon occurrences and movements in what are now Westmoreland, Fayette and Washington counties. In the area within which are now embraced those counties, transpired or arose incidents which, while they are not within the strict history of Allegheny county, were incidental to its final settlement, and a necessary adjunct in the narration of its story.

Previous to the year 1788 Westmoreland County, out of which Allegheny County was taken, was a wilderness without roads other than Indian trails, as was

also Fayette, which was also taken from Westmoreland, that county originally including the whole south-western corner of the State. The access to the "Forks," as the junction of the Allegheny and Monongahela was designated, was up the Juniata, thence by water down the Kiskiminitis to the Allegheny, or by Braddock's road from Virginia. This latter road did not run in the same course as the one opened afterwards by Colonel Burd to Redstone creek, now the site of the town of Brownsville.

"The course of Braddock's road was N. N. E." says Colonel Burd in his journal, "turning much to ye eastward." It crossed the Youghiogheny a little below the residence of Colonel William Crawford, on the left bank of the river, and the place is still called Braddock's Fort.

Colonel Crawford was an intimate friend of Washington, and a captain in Forbes' expedition in 1758. He was the Colonel Crawford who was burned to death by the Indians in 1782, on the Muskingum, having been captured in an expedition to destroy the Indians on that river.

Colonel Burd's road, according to his journal, "began a quarter of a mile from the camp (Dunbars), the course N. N. W." He says—"Marked two trees at the place of beginning, thus—'The road to Redstone, Col. J. Burd, 1759,' 'The road to Pittsburgh, 1759.'"

From this it would appear that Fort Pitt was at that early date known as Pittsburgh, although there was at that time, by best accounts, only a few bark and log cabins scattered around the fort.

In May, 1755, the province of Pennsylvania agreed to send out 300 men to cut a wagon road from Fort London, in Bedford county, to join Braddock's road, near the Turkey Foot, on three forks of the Youghiogheny. In 1758 it was determined under the administration of the English government, by William Pitt, to expel the French from the valley of the Ohio. General Forbes was placed in the command of a force of 7,850 men. Colonel Washington, who had been appointed the colonel of a regiment of Virginia troops, when the route to be taken to Fort Duquesne was discussed, urged General Forbes to take the Braddock road to Fort Duquesne, as it was already opened, which would indicate that the force of 300 men, in May, 1755, had completed the undertaking for which they were sent out.

The Pennsylvanians, however, jealous of the claims of Virginia on the Monongahela, were determined not to lose the opportunity of opening a communication with the "Forks" over their own territory.

Their counsels, backed by the arguments of Colonel Boquet, who was with the force, prevailed with General Forbes, and in September of 1758, he, with a force of 2,500 men, advanced to cut the road.

Washington, although chagrined at the change in the route, took a warm interest in the movement, and solicited an advanced position for his own corps in making the road. He joined the advanced corps at Loyalhanna in October of that year with the rank of Brigadier. His letters represent the party as "encountering every hardship of an advanced season, want of clothes, and a small stock of provi-

sions." It was down these two routes, the making of which has been briefly noted, that for years the pioneers of the west came who settled in Allegheny County.

While General Forbes' advanced corps were cutting his way through Westmoreland county, he dispatched Major Grant with a force of 800 men to reconnoiter, General Forbes himself with the main body moving slowly along by the new cut road towards Fort Duquesne. On the night of September, 1758, Major Grant and his force reached the hill near the fort. This hill has ever since had the name of "Grant's," its title being derived from that commander's battle with the French. It had originally an elevation of about 100 feet above the level of the plain below. Under the necessities arising from the growth of the city it has been largely graded away, although as late as 1840, a section of its original height remained, upon which was the first reservoir of the city's water works, occupying that portion of the hill through which Diamond street now runs.

On the morning of the 14th of September Major Grant attacked the fort. This attack of Major Grant is characterized by General Washington in a letter to the Governor of Virginia as "a very ill-conceived, or very ill-executed plan, perhaps both; but it seems to be generally acknowledged that Major Grant exceeded his orders."

It was eleven o'clock at night when Major Grant appeared with his troops on the brow of the hill, about a quarter of a mile from the fort.

In the morning four hundred men were posted along the hill, facing the fort, to cover the retreat of a company under Captain McDonald, who marched with drums beating toward the enemy, Major Grant believing there was but a small force in the fort. The garrison, who seemed to have kept an apparently sleepy watch, was aroused by the music and sallied out in great numbers, of both French and Indians. This force, accounts say, was separated into three divisions, two of which were sent, under cover of the banks of the two rivers, to surround the force of Major Grant, while the third delayed a while to give the others time, and then displayed themselves before the fort as if exhibiting their whole strength. The attack then began, and Captain McDonald, with his one company, was immediately obliged to fall back on the main body under Major Grant, who at the same moment found himself suddenly flanked on all sides by the detachments of the enemy moving from the banks of the river. The struggle became desperate. The provincial troops, as at Braddock's, at once covered themselves behind trees, and made a good defence; but the Highlanders stood exposed to the fire without cover, and fell in great numbers, and at last gave way and fled. Major Lewis, who had been posted in the rear with two hundred men, principally American regulars and Virginia volunteers, with the baggage, hastened forward to the support of Grant, but soon found himself flanked on both sides. The work of death went on rapidly, and in a manner quite novel to the Highlanders, who in all their European wars had never before seen men's heads skinned; they gave way, and the rout of the troops became general.

It is recorded as one of the incidents of this rout, that as Major Lewis was advancing with his men he met a Scotch Highlander under full flight, and on in-

quiring of him how the battle was going, the panic stricken soldier replied: they were "a' beaten, and he had seen Donald McDonald up to his hunkers in mud, and a' the skin off his heed." This would indicate that the Highlanders had reached or were passing the point or base of the hill, at the present line of Smithfield street, between Fifth avenue and Third avenue, as a series of ponds or stretch of swamp skirted the base of Grant's hill just here, and it was probably in passing through this swampy portion of the ground that poor Donald McDonald sunk up to his "hunkers in mud" and lost the "skin of his heed," and it is probable that he was the Captain McDonald who led his one company with drums beating down the face of the hill as if on parade.

A number of the men were driven into the river and drowned, and Major Lewis taken prisoner. This officer is the celebrated General Andrew Lewis of the Indian war of 1774, commonly called Lord Dunmore's war. He was the companion of Washington in the campaign of Braddock, and was a captain in the detachment that fought at Fort Necessity, and it is stated that Washington's opinion of Lewis' military abilities was so great that when the chief command of the revolutionary armies was tendered to him, that he recommended it should rather be given to General Lewis. Stuart, in his *Historical Memoirs*, says, "General Lewis was upwards of six feet high, of uncommon strength and agility, and his form of the most exact symmetry. He had a stern and invincible countenance, and was of a reserved and distant deportment, which rendered his presence more awful than engaging."

Major Grant retreated to the baggage, where Captain Bullet, with fifty Virginians, endeavored to rally the flying soldiers. As soon as the enemy came up Captain Bullet attacked them with great fury; but being unsupported, and most of his men killed, was obliged to retreat. Major Grant and Captain Bullet were the last to desert the field. They separated, and Major Grant was taken prisoner. It is not without interest in this connection to state that the point at which Grant was captured was at what is now the corner of Wood street and Third avenue, where the St. Charles Hotel now stands.

This is the same Col. Grant who, in 1775, on the floor of the British Parliament said that he had often acted in the same service with the Americans; that he knew them well, and from that knowledge ventured to predict "that they would never dare face an English army, as being destitute of every requisite to good soldiers."

While Grant and Lewis were detained as prisoners at Fort Duquesne, Grant addressed a letter to General Forbes, attributing their defeat to Lewis. This letter being inspected by the French, who knew the falsehood of the charge, they handed it to Lewis. He waited upon Grant and challenged him; upon his refusal to fight he spat in his face in the presence of the French officers, and left him to reflect upon his baseness.

On November 24th, the French, panic stricken at the approach of General Forbes' main army, set fire to the inflammable parts of the fort, and blew up others, and embarking in boats or batteaux, descended the Ohio. General Forbes repaired

to some extent the ruined fort, and returned in a few weeks to Philadelphia, where he soon afterwards died, in March, 1759, aged 49 years.

In the Pittsburgh *Gazette*, 1841, Neville B. Craig, Esq., says: "Two hundred men of Washington's regiment were left to garrison the place." He makes no mention, however, of Washington being at the fort, although in the same article he says, writing of the advance of Forbes' forces: "Washington was advanced to the fort to superintend the opening of the road, and the army moved after him by slow and laborious steps." The presumption would be that he was at or near the fort on its occupancy by the English, but probably returned with Forbes to Philadelphia or to Virginia, leaving a portion of his original regiment, as before stated, to defend the fort. On this point, Col. Boquet, who was with Gen. Forbes at the occupation of Fort Duquesne, and also subsequently ordered by General Amherst to the relief of Fort Pitt, writes from Fort Duquesne, under date of November 25th, 1758: "We marched this morning and found the report true. They have blown up and destroyed all their fortifications, horses, ovens, and magazines; all their Indian goods burnt in the stores, which seem to have been considerable. There seem to have been about 400 men, part is gone down the Ohio, 100 by land, supposed to Presque Isle, and 200 with Governor M. De Lignery, to Venango. The destruction of the fort, the want of victuals, and the impossibility of being supplied in time at this distance and season of the year, obliges us to go back and leave a small detachment of 200 men only by way of keeping possession of the ground."

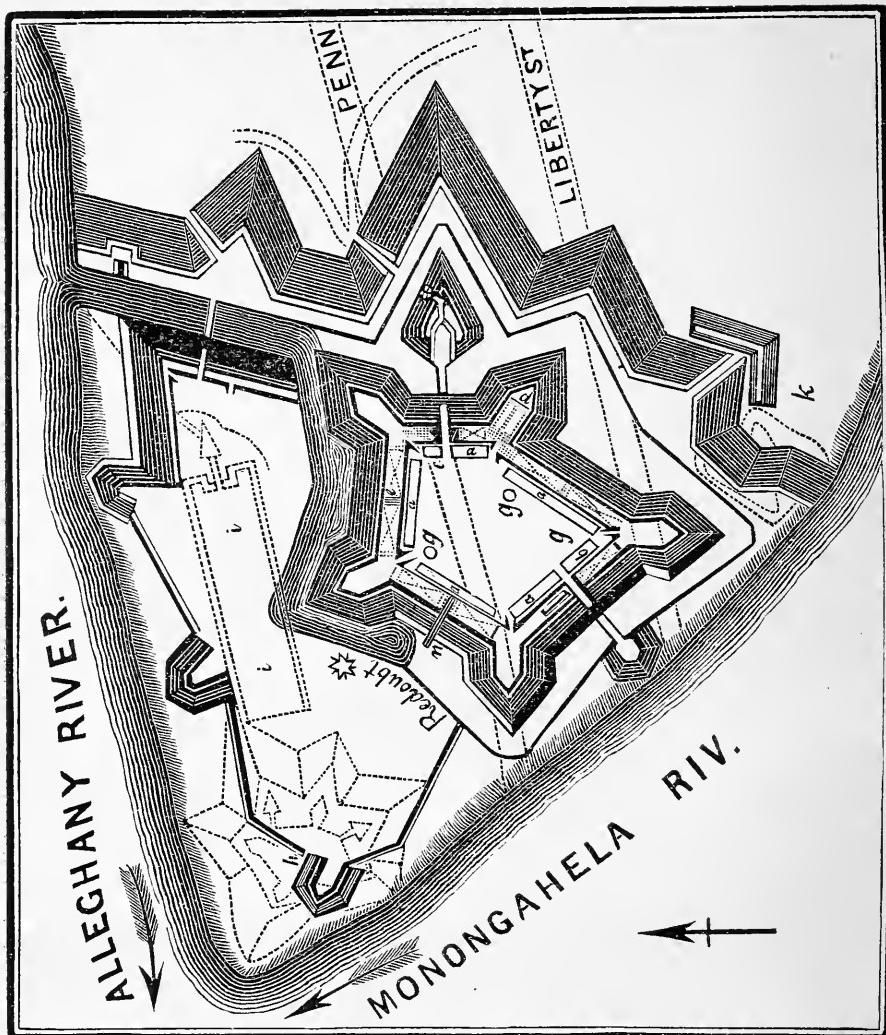
Mr. Craig says:—"The first Fort Pitt, a slight works, composed of pickets with a shallow and narrow ditch, was partly thrown up for the reception of 200 men. The rest of the army returned to the settlement."

In the summer of 1759 General Stanwix arrived and began the erection of Fort Pitt, on a plan drawn by R. Rutzer. A letter written from thence, in September, 1759, says: "It is now a month since the army has been employed erecting a most formidable fortification, such a one as will, *to latest posterity, secure British Empire on the Ohio.*"

Considering this assertion, under the facts of subsequent history, the French proverb, "*L'homme propose et Dieu dispose,*" rises irresistibly in the mind.

To a clear understanding of these facts, 'round which two prominent historical battles were fought, which has made Allegheny County classic ground in American history, the subjoined engraving of Fort Pitt is given. It is a reduced copy of the draft made by Engineer Rutzer, in 1761, afterwards presented to George III., and given by George IV. to the British Museum, from which a copy was made by Hon. Richard Biddle of Pittsburgh, in 1830, during his visit to London.

The plan, it will be noted, shows the original site of Fort Duquesne, the first Fort Pitt, or the slight stockade, so called, put up by General Forbes, and the second Fort Pitt, erected under General Stanwix's command. The more detailed view of Fort Duquesne, which forms one of the illustrations of this volume, is from a sketch made by Captain Strobo, when held as a hostage there by the French, in 1754, as before mentioned.



a, Barracks, already built. *b*, Commandant's House, not built. *c*, Store House. *d, d*, Powder Magazines. *e*, Casemate, completed. *f*, Store House for Flour, &c. *g*, Wells, in two of which are pumps. *h*, Fort Duquesne. *i, i*, Horn Work, to cover French Barracks. *k*, First Fort Pitt, destroyed. *n*, Sally Port.

Fort Pitt was finally finished on June 8th, 1760, and is stated to have cost the English Government sixty thousand pounds sterling, or about \$300,000.

There is a natural tendency in the human mind to speculate on what might have been the results had events been reversed, and the query arises as to whether the United States would have been as they are now, or the same progress and the same commercial and manufacturing character obtained around the forks of the Ohio and gradually spread westward, had the French retained control of the country west of the Alleghenies. The country would have, in that event, naturally been largely settled by the French people, as it would have been to the direct in-

terest of France to have encouraged the emigration of her subjects thither. France would have then completed her policy of connecting the Canadas with Louisiana by a chain of forts and thus secured the control of the great rivers of the west. Naturally the French are a pastoral nation, while the English are a manufacturing people.

The atmosphere of character has at all times dominated the spirit of the development of a country. While natural causes would ultimately have engendered the manufacturing enterprise that has placed Allegheny County so prominently before, not only the country, but the world, slower progress would possibly have been made. The colonization of Canada by the French is illustrative of the thought where the social and commercial atmosphere made by them delayed and still retards the rapid development of the resources of that section.

Less cruel than the English in their acquisition of new territory, the French, as is apparent in all their history in the new world, fraternize largely with the Indians; that policy and disposition being greatly dominated by the religious aims of the Jesuits, which were always, primarily, to convert the people of the country and increase the following of the church. The result of this policy was to create a feeling of brotherhood, instead of a sentiment of antagonism, as historically the case under English conquests.

Even if France had held control of the Mississippi Valley, England would no doubt have continued to have held the country from the seacoast to the eastern slope of the Alleghenies. While under the taxation of the English the colonies might have rebelled, yet it is probable, with all the country to the west held by France, the government of England would have long hesitated before they would have forced their American colonies to declare their independence, under the possibilities of powerful aid they might receive from the age-long enemy of Great Britain.

It is a singular coincidence in connection with this thought that, as the history is, the English colonies should have, by the aid of France, established their independence, as would have been the case had that government retained sway west of the Alleghenies.

While, if such had been the case, there is some probability that a republican form of government might have been established in the Mississippi and Ohio Valleys by the French, yet as such a revolt in French colonies has not been in history, the probabilities are equally great that such would not have been the case in America, as France, in view of the agricultural richness of that section, would have endeavored by mild legislation to retain the loyalty of the colony instead of alienating it by unjust taxations, as did Great Britain with her American colony. Had, however, in the course of time, a French republic been established, it would have coalesced with the American.

While antagonism, leading to wars, might not have resulted, the North American continent would have been divided between two distinct people. It might be said, perhaps, three, for from the natural disposition of the French to fraternize

and intermarry with the Indians, and the equally natural efforts of the Jesuit element of the Roman Catholic Church, there would have been an intermixture of race, by intermarriage, resulting in a lower grade of civilization than has been attained under the exclusive American control. The capture of Fort Duquesne, therefore, by General Forbes, by which the power of France was broken in the Ohio Valley, must be looked upon as the pivotal circumstance in the march of events that created a great nation of freemen and gave it the control of the continent, and must be considered a very important event in the history of Allegheny County.

After the capture of Fort Duquesne and the building of Fort Pitt, there were frequent conferences with the Indians and the commanders of the fort. On December 4th, 1758, one was held by Colonel Henry Boquet with the Delawares. On July 4th, 1759, Colonel Hugh Mercer met for conference with the six nations of Shawnees and Delawares. July 4th of the same year Colonel George Croghan met in conference with an important delegation of the Indian tribes, at which the prominent chiefs of the Delawares, Shawnees and Wyandots represented those tribes, and also by deputation of the Ottawas, Chippewas, Putawatimes, Twithawies, Cuskusrees, Kickapoos, Shokeys and Musquakes. October 25th of the same year General Stanwix held a conference with the six nations of the Delawares and Twithawies. At these several conferences the Indians assembled in large bands, with all the pomp of Indian council and the dignity of independent nations, in treaty with the victorious English for peace and the preservation of their own national integrity.

In the historical reviews of the early incidents at Fort Pitt this year is notable as investing Allegheny County and Pittsburgh with a halo of the romance that gathers with the passage of time, and the gradual dispersement of the Indian race around localities where they were prominent in battle and in councils. Beyond these important Indian conferences, there does not appear to be any mention of general public importance at or about that time connected with the region at or contiguous to what is now Allegheny County. Emigration came slowly in, and under the protecting influence of the fort, traders pursued their business with the Indians with comparative security.

The English historian, Smollett, in commenting on the actions of General Stanwix while at Fort Pitt, says: "The happy consequences of these measures were soon apparent in the production of considerable trade between the nations and the merchants of Pittsburgh."

The ground around the forts seem, under the quiet that prevailed among the Indians, and the consequent security to settlers, to have begun appreciating in value, and sales were made in 1792 at fifteen pounds ten shilling per hundred acres, Pennsylvania currency. This calm continued until the outbreak of the famous Pontiac war in 1763. That Indian chief had conceived the idea of uniting all the northwest tribes in a simultaneous attack on all of the frontier forts.

In this famous Indian war, although its principal events were in the region of Detroit, yet Fort Pitt was still a point of mark and of attempted capture. The

Indians surrounded the fort and cut off all communication with it. They posted themselves on the banks of both rivers, and continued there from day to day with great patience, pouring in showers of fire, arrows and musketry, hoping by famine, fire, or by harrassing the garrison, to carry the works.

It was also planned to attack Fort Ligonier, in Westmoreland county, and by capturing it cut off the supplies of Fort Pitt, and so reduce it by starvation. The Indians were repulsed from Fort Ligonier, and Colonel Boquet was dispatched with two regiments to relieve Fort Pitt. He was attacked on the 5th of August, 1763, at Bushy Run, a point twenty-one miles from Pittsburgh, in Westmoreland county, by a large force of Indians. After a desperate fight he defeated them with great slaughter, the English having fifty men killed and sixty wounded. After repulsing the Indians Colonel Boquet continued his march to Fort Pitt, where he arrived on the 9th of August, and relieved the garrison. In the fall of the succeeding year he erected a small redoubt, or block-house, inside the walls of the fort, which is still extant. The stone tablet, with his name and date of erection, which he had placed over its door, is now preserved in the inside wall of the City Hall of Pittsburgh.

The object of the erection of this redoubt is not of record, nor is its necessity apparent, unless the fort was deemed unsafe, and the block-house provided as an ultimate resort in case of attack. There was another redoubt, also, erected near the fort, by Major William Grant, the same officer commanding at the battle of Grant's Hill. He returned to Fort Pitt from Montreal after being exchanged or released by the French.

Of this redoubt Neville B. Craig writes: "Major Grant afterwards returned to this place, and erected the redoubt which stood on the banks of the Monongahela, opposite the mouth of Redoubt alley. We recollect distinctly seeing the stone tablets stating Golonel William Grant built the redoubt."

Of this there is no relic. There are no dates to fix the period of its erection, but it is probable from the dates of the various occurrences of that period of time that it was built after the building of Fort Pitt by General Stanwix and before Colonel Boquet arrived at the fort.

For some years after the Pontiac war there were not any occurrences at or around the forks of the Ohio of any great historical importance. While at the north of the Allegheny and south of the Monongahela the Indians were troublesome, it does not appear that they in any formidable body made incursions into the section of country around the fort. Although there are sparse accounts of outrages by Indians in groups of two or three, no marked injury was done. This condition of affairs was the result of Colonel Boquet's expedition from Fort Pitt in 1764 against the Indians in "Muskingum county," as it was called. This expedition departed from Fort Pitt October 3d, 1763. Their course was along the low ground which is now in the First and Second wards of Allegheny, to the narrows; then along the river beach to Beaver creek; thence to Tuscarawas, near the forks of the Muskingum. The Indians were overawed and sued for peace.

The Delawares, Shawnees and Senecas agreed to cease hostilities and surrendered a great number of prisoners, who were brought to Fort Pitt.

The result of Colonel Boquet's expedition was to inspire such confidence at Fort Pitt that in 1764 a plan of lots and streets, commonly called "The Old Military Plan," was laid out. It embraced that portion of the present city lying between Water street and Second street and Market and Ferry streets.

In 1762 James Gondin raised a house at Eleven-Mile run, and William Sheaner and Harry Shirach made improvements in the vicinity of the fort by order of Colonel Boquet, and Kasper Loup improved land four miles from Fort Pitt by permission of Colonel Boquet.

In 1760 a house was erected at a place called Somerset, five or six miles from Fort Pitt, and five or six families commenced improvement on a tract of 1,500 acres on the Ohio at the mouth of Two-Mile run, up the river to the narrows.

Alexander McKee also made improvements on the Ohio river four miles below Fort Pitt, at the mouth of Chartiers creek. Portions of this tract are held by his heirs and their descendants through marriage, resident in Allegheny, in 1888.

In 1769 William Christy applied for a location of 300 acres "within two miles of Fort Pitt." Mr. Christy's application was granted and permission given "to improve for the benefit of travelers."

The tract so taken up included what was long known as "Grant's Hill," being the rising ground whereon is now the Court House of Allegheny County, and several squares of city dwellings, office buildings, St. Paul's Cathedral and St. Peter's Episcopal Church.

Among the early settlers of Allegheny County at this time and shortly after were John Carrothers, Robert Smith, Walter Denny, John Greir, Joseph Hunter, William Ramsey, John Wilson, James Hannah, James Dean, Richard Butler, Robert Dewling, Devereaux Smith, John Wilkins, Jr., Thomas Bend, Jr., William Preston, Robert Harrison, Matthew Grimes, John Frankman and John Crush.

In the spring of 1765 Fort Pitt was again the scene of a grand Indian conference with George Croghan, Esq., deputy agent for Indian affairs. On the 9th of May of that year the chiefs of the Shawnees, Delawares, Senecas, Munsies and Sandusky Indians, accompanied by five hundred warriors, besides their women and children, assembled at the fort.

On April 26th, 1768, the principal chiefs and warriors of the Six Nations, Delawares, Shawnees, Munsies and Mohicans, to the number of 1,103, besides their women and children, once more assembled at Fort Pitt to confer with Colonel Croghan.

Some items are quoted from the original manuscript, requisitions for articles needed for distribution to the Indians at that council. The entire value of the articles in the requisition is given at \$26,575. Among them are 1,500 white ruffled shirts, at \$3.00 each; and 2,000 ruffled calico shirts, at \$2.00 each; 50 dozen black silk handkerchiefs, at \$12.00 a dozen; 50 gross scarlet, pink, blue, green and yellow plain bedlace, at 3 cents a piece; 150 pieces scarlet, blue, pink, green, yellow rib-

boning tafferty, at \$1.50 a piece; and 20 pieces of scarlet gartering. These, it is to be presumed, were for the adornment of the "bucks," as 150 pounds of vermillion is also called for, and 150 dozen gilt looking glasses. The requisition for 60 dozen redding combs and 50 dozen ivory combs is suggestive. The requisition for 600 tomahawks, 100 scalping knives, 62 best brass box rifles, at \$14.00 each, and 80 quarter cwts. of rifle powder, shows that the government early began the policy they have pursued to the present day of placating the savage by giving them the means to continue their depredations. A special requisition is made for "silverware for the chiefs." This is specified as three large gorgets, at \$8.00 each; 6 pairs of large armlets, at \$8.00 each; 6 pairs of ear wheels, at \$2.00 each; for each of the ten nations who are thus orthographically designated: Shawnoes, Delawares, Hurons, Twithawies, Putawatimes, Ottawas, Chipawas, Saigneas, Outatanons, Fox Nations. "Silverware for the women" is also thus specified: 20 dozen crosses, at \$4.00 a dozen; 60 pairs wrist bands, at \$3.00 a pair; 200 dozen large plain brooches, at \$1.50 a dozen; 100 dozen heart brooches, at \$2.00 a dozen; 100 small scalloped, at \$1.00 a dozen; 30 dozen finger rings, at \$1.75 a dozen. There is also 300 bunches of garnet beads, and 68 lbs. of small white, green and coral. This would suggest that if the women did not have a vote at the Indian caucus, they were supposed, as at the present day, to exert a home influence, it was well to influence. The pomp and parade at these councils, when the white and ruffled calico shirts had been donned, the gilt looking glasses, brilliant ribbons and red vermillion adjusted on the persons of the "bucks," the silver crosses, earbobs and armlets, beads and brooches upon the persons of the "squaws," suggest a brilliant picture of the savage display around Fort Duquesne when these Indian conferences were held. Years and years hence, when the original Indian has become a myth, so far as any living type may be, the records of such gifts, and the personal decorative uses to which they were put by the recipients, will come to be regarded almost as a mythical legend, or that the forks of the Ohio was the scene of such barbaric display.

It is hard to realize even now, that but a little over the hundred years of the existence of Allegheny County, with all its wealth of mills, factories, schools, churches, and grand architectural buildings, the most crowded part of its great city was frequently the scene of such savage pageantries.

In May, 1769, a warrant was issued for the survey of the Manor of Pittsburgh, which, when completed, embraced fifty-seven hundred acres. The title to this was in the Penn family. John Penn, the grandson of William Penn, being at that date Lieutenant Governor of the province of Pennsylvania. As incident to this proprietorship, it is of interest to mention a proclamation issued by Governor Penn, as showing how the feeling against the Indians swayed his sentiments from the Quaker scruples, in which he had been educated, against bloodshed. In July, 1764, this grandson of William Penn offered, by proclamation, as bounties for Indians killed or secured, "For every male above the age of ten years captured, \$150; scalped, being killed, \$134. For every female Indian enemy and every

male under the age ten years, \$130 ; for every female above the age of ten years, scalped, being killed, \$50."

Under this proclamation it may easily be assumed that at that date Fort Pitt was a starting point for many scalping parties, and the rendezvous of the adventurous scouts of that day. Neither tradition or record show that within Allegheny County were any cruelties perpetrated, and the issue of the warrant to survey the Manor of Pittsburgh indicates that it was thought that settlements around the "Forks" were prudent and safe. During the war of the Revolution, the Penn family were adherents of the British government, and in 1779, the Legislature confiscated all their property, except certain manors, of which surveys had been made and entered in the Land Office, prior to July 4th, 1776. The Manor of Pittsburgh having, as before mentioned, been surveyed in 1769, thus remained the property of the Penns.

On October 19th, 1770, as previously mentioned, General Washington visited Fort Pitt. He lodged, as he writes in his journal, at "the house of one Mr. Semple." This house was at the corner of Water and Ferry streets. It was built of logs roughly hewn, in 1764, by Colonel George Morgan, and was the first shingle roofed house at Pittsburgh, and is also the house where Aaron Burr stopped when at Pittsburgh, on his way to Blennerhasset Island in pursuance of the expedition for which he was tried for treason.

Washington was also at Pittsburgh on the 22d of October, as he records in his journal, "stayed at Pittsburgh all day. Invited the officers and some other gentlemen to dinner with me at Semple's, among whom was one Dr. Connelly, nephew to General Croghan." This is probably Dr. Connelly who seized Fort Pitt at a later period, acting for Lord Dunmore, Governor of Virginia.

In 1772, the English garrison was withdrawn from Fort Pitt by order of General Gage. It was during this year that Lord Dunmore, possibly following up the claim made by Governor Dunwiddie in 1754, set up the pretension that the western boundary of Pennsylvania did not include Pittsburgh and the Monongahela river. It was in support of this claim that, in 1774, Lord Dunmore, Governor of Virginia, took possession of Fort Pitt by his agent, Dr. Connelly, two years after the withdrawal of the royal troops by order of General Gage.

The fort seems to have been in a dismantled condition at the time, as a letter written by Devereaux Smith from Pittsburgh, June 10th, 1776, says: "Dr. Connelly has embodied upwards of 100 men, and will have the fort in good order in a short time."

At the same time a deputation of the Six Nations had a conference with this Dr. Connelly, as Lord Dunmore's representative, in respect to the murders committed by Cresap and Greathouse, which had led to the Indian war of 1774, called "Lord Dunmore's War."

It is singular that the province of Pennsylvania, bounded on its western end by a broad river, and on its sides by long, straight lines of latitude, should have had any dispute as to her western boundaries. Governor Dunwiddie, as before

mentioned, in 1754, and Lord Dunmore, in 1774, undoubtedly thought Virginia had a good claim to what is now Allegheny County, and much more, and it is not clear that even Colonel Washington, who knew the country well, and had taken up much land in it, did not entertain the idea that what are now the counties of Fayette, Greene and Washington were in Virginia, for in and about the year 1774 Governor Lord Dunmore opened several offices for the sale of lands within the bounds of what are now the counties of Fayette, Washington, Allegheny and Greene, the warrants being granted on paying two shilling and six pence fee. The purchase money was trifling, being only ten shillings per hundred acres, and even that was not demanded. This was an inducement to apply to Governor Dunmore's agents rather than to those of the province of Pennsylvania. Governor Dunmore also procured the judicial authority of Virginia to be extended to the Ohio, and two courts were established and held south of the Monongahela, within the territory afterwards held by Pennsylvania, and one north of it at old Fort Redstone, now Brownsville.

Be that as it may, Governor Penn promptly repulsed the intruders under the Virginia titles, arrested and imprisoned Connelly, and kept on pay for some time the rangers who had rallied for the defence of the frontier.

In 1775, October 20th, a meeting was held at Pittsburgh to sustain the people of New England in their resistance to King George III. of England. There not being as yet any newspaper printed in the west, no documentary evidence can be quoted as to the facts of this action of the people of the town. This meeting must have been a small one, as Isaac Harris, in his Directory of 1837, giving some account of the early history of Pittsburgh, says: "In 1775 the number of houses within the present bounds of the city did not, according to the most authentic accounts, exceed twenty-five or thirty."

In 1776 Messrs. Gibson and Linn, the latter the grandfather of Dr. Linn, at one time a Senator of the United States for Missouri, descended the river from Pittsburgh to New Orleans to procure military stores for the troops at the former place. They completely succeeded in their hazardous enterprise, and brought back a cargo of 136 kegs of gunpowder. On reaching the falls of the Ohio on their return, in the spring of 1777, they were obliged to unload their boats and carry the cargo around the rapids, each of their men carrying three kegs at a time on their back. The powder was delivered in Wheeling, and afterwards transported to Fort Pitt.

In 1777 was began at Pittsburgh that branch of the mechanic arts which, through its increase, made the city the famous boat building center it became. On the 23d of February fourteen carpenters and surveyors came to Pittsburgh from Philadelphia, and were set at work a few miles above the fort building a batteaux to transport troops. In the spring of 1778 General McIntosh, with regulars and militia from Fort Pitt, descended the Ohio and built Fort McIntosh on the site of the town of Beaver.

In January, 1778, there was almost a famine at Fort Pitt, bacon being one dollar a pound, and flour sixteen dollars a barrel.

In 1780 General Brodhead, who was distinguished as a daring partisan officer, charged with the defence of this part of the frontier, made Fort Pitt his headquarters. One of his principal aids was Captain Samuel Brady, the renowned "Indian killer," as he was called. Pittsburgh was the point of this scout's departure in many of his adventurous expeditions, but none of his exploits occurred in the territory now Allegheny or Westmoreland counties. Simon Girty, the famous ally of the Indians, and a British scout and leader in many of the Indian inroads, also made Allegheny County one of his haunts when not out scouting and had a half brother, named John Turner, who lived on what was called Squirrel Hill, Twenty-second ward of Pittsburgh, whom Girty often visited.

In 1781 General Irvine superceded General Brodhead in command of Fort Pitt, and continued until the peace of 1783. He enjoyed to a very high degree the confidence of General Washington. It was about this time that projects were discussed at Fort Pitt of colonizing the section of country now the State of Ohio. General Irvine entertained the idea that something more than colonization was intended, and wrote at length to General Washington touching the matter from Fort Pitt, under date of April 20th, 1782.

The public mind seemed at that date not yet to have realized that the acquired independence of the American colonies was the formation of a new government, which would exercise governmental authority over the whole territory, and had therein rights of eminent domain.

Grasping the idea fully that all allegiance was abrogated to the crown of Great Britain, they did not realize that it was or should be transferred to the United States.

While realizing the territorial rights and control of the United States, and prepared to respect their laws within their bounds, the frontier population looked upon the whole Indian country to the west of the forks of the Ohio as free land. It is not difficult to realize how such an idea in a crude shape took hold of the popular mind on the frontier, and did possibly with some restless and ambitious persons incite the scheme of self-aggrandizement which General Irvine hints at in his letter. While accepting as a Nation the federation of the thirteen States, they considered the governmental right of England on this continent abrogated, and looked upon the Indian territory as of a foreign nation, which, being conquered by a combination of individual forces, belonged to the victors, and any State or government was independent of the United States, on the same principle as the thirteen colonies became so of Great Britain.

Whether there were such schemes or ambitions there is no documentary evidence to show, other than General Irvine's letter, but it is evident from that that there was a spirit of restlessness which, under the moulding of ambitious men, might have led to such ends.

The subjoined extract from his letter, dated Fort Pitt, April 20th, 1782, shows the state of public sentiment:

"I arrived here the 25th of March. At that time things were in greater confusion than can well be conceived. The country people were in a state of frenzy, about three hundred had returned from the Moravian towns, where they found about ninety men, women and children, all of whom they put to death, it is said, after cool deliberation and considering the matter three days. * * * *

"On their return a party came and attacked a few Delaware Indians, who have yet remained with us, on a small island close by this garrison. Killed two who had captains' commissions in our service and several others. The remainder effected their escape from the fort, except two, who ran into the woods and have not since been heard of. * * * * This last outrage was committed the day before I arrived. Nothing of this nature has been attempted since.

"A number of strong-headed men had conceived the opinion that Colonel Gibson was a friend of the Indians, and that he must be killed also. These transactions, added to the mutinous disposition of the regular troops, had nearly brought on the loss of the whole country.

"I am confident that if this fort was evacuated the boundaries of Canada would be extended to Laurel Hill in a few weeks.

"Civil authority is by no means established in this country, which proceeds in some degree, I doubt not, from the inattention of the executives of Virginia and Pennsylvania not running the boundary line, which is at present an excuse for the neglect of duty of all kinds, for at least twenty miles on each side of the line. More evils will arise from this than people are aware of.

"Emigration and new States are much talked of. Advertisements are set up announcing a day to assemble at Wheeling for all those who wish to become members of a new State on the Muskingum. A certain J——— is at the head of this party. He is ambitious, restless, and some say disaffected, and most people agree he is open to corruption. He has been in England since the beginning of the present war. Should these people actually emigrate, they must either be entirely cut off or immediately take protection from the British, which I fear is the real design of some of the party."

From this it is evident that at and around Fort Pitt schemes were projected to acquire territory by driving the Indians from the Muskingum region and there erect a new State independent of the federation under British protection if necessary.

One year after this a glimpse of the town, in an extract printed in Neville B. Craig's "History of Pittsburgh," is afforded, from the journal of Arthur Lee, who, under date of December 24th, 1784, writes: "Pittsburgh is inhabited almost entirely by Scots and Irish, who live in paltry log houses, and are as dirty as in the north of Ireland, or even Scotland." It should be noted that Mr. Lee had been a commissioner with Dr. Franklin and Silas Dean to the court of Versailles, and fresh from the elegance of the French court the rudeness of the frontier towns were not congenial to his fastidious tastes. Mr. Lee also writes: "There is a great deal of small trade carried on, the goods being brought at a vast expense of forty-five shillings per ewt. from Philadelphia and Baltimore. There are in the town four attorneys, two doctors, and not a priest of any persuasion—no church, no chapel." H. H. Breckenridge, James Ross, Alexander Addison and John Wood were those four lawyers. Dr. Nathaniel Bedford was one of the doctors, and Doctor Stevenson possibly the other. One John Wilkins, a Quaker, who vis-

ited Pittsburgh in 1803, wrote of it that: "All sorts of wickedness were carried on to excess, and there was no appearance of morality or regular order."

These assertions of the writers quoted are somewhat modified by the fact that as early as 1754 French priests gave religious services to the French soldiers and the Indians. While in 1758, the Rev. Charles Beaty preached to the settlers and was followed by the Rev. Duffield. In 1782, the Rev. Wilhelm Weber founded the first church of the German United Evangelical Protestant denomination in the west. This is probably the Dutch church that H. H. Breckenbridge in his "Recollections" thus makes mention of, "At that time to which I allude, the plain was entirely unencumbered by buildings or enclosures except the Dutch church, which stood aloof from the haunts of men." This church, far from the haunts of men, was on the corner of what is now Sixth avenue and Smithfield street, where the elegant church, the successor of the little log church, now stands.

In 1784, the Rev. James Power preached at Fort Pitt by order of the Redstone Presbytery, and in 1786, the Rev. Samuel Barr was prominently located at Pittsburgh.

In 1784, Mr. French Francis, as agent for the Penns, made arrangements to lay out the Manor of Pittsburgh in town lots, and out lots, with orders to sell them without delay.

In May of that year, Mr. George Woods, an experienced surveyor, arrived from Bedford, bringing with him Thomas Vickroy, for whom Vickroy street in Pittsburgh is named, to assist him. In January, 1784, the first sale of lots in the town of Pittsburgh were made to Stephen Bayard and Isaac Craig by John Penn and John Penn, Jr. This might be considered the beginning of the town of Pittsburgh. As the plan of 1764 was called "a military plan," and the settlers upon the lots did so under tacit permission of the commander of the fort, without having however any legal title to their lots. The 29th of July, 1786, is a date in the history of Allegheny County of special note. On that day was issued the first number of "*The Pittsburgh Gazette*," and the first newspaper west of the mountains. John Scull and Joseph Hall, having embarked their little capital in what must have seemed a most hazardous venture. John Scull was the descendant of Nicolas Scull, a member of the Society of Friends, who came from Bristol, England, and landed at Chester, Pa., September 10th, 1665. The founder of the *Gazette* was a son of Nicolas Scull, 2d. He was born 1765, and was but twenty-one years of age when he came to Pittsburgh, in 1786. He was the first post master of Pittsburgh, and president of the second bank, (the Farmers Mechanic,) established at Pittsburgh; also one of the incorporators of the Western University of Pennsylvania.

It is of interest to note that the *Gazette* was printed on a Ramage press, brought across the mountains by wagon. This press was so small that but one page of the *Gazette*, about 10x16, could be printed at a time, taking, therefore, four impressions to produce a copy, and occupying about ten hours to produce seven hundred copies. The contrast between then and now is strikingly illustrated by the press now in use by the *Gazette*, which throws off 15,000 copies in one hour.

The preceding accounts that have been given of the size and general characteristics of the town, at the time when Messrs. Scull and Hall determined on publishing this first newspaper west of the mountains, were not such as, at the present day, would offer inducements to embark in a newspaper business, as according to "*Niles Register*," volume 3d., page 436, there were but thirty six log houses, one stone, one frame, and five small stores. The county was as sparsely settled as the town, and no mail routes.

Mr. Scull came to Pittsburgh with the purpose of establishing a paper as an advocate of Washington and the Federal party. Considering the limited local patronage that could be reasonably expected then from the vicinity, it is not an unreasonable supposition that at that early day, as party virulence was as great as now, the *Gazette* did not depend altogether on purely local support for its revenues. The *Gazette*, however, prospered.

It is worthy of note that the first book published west of the mountains was printed at the *Gazette* office, being the third volume of Judge H. H. Breckinridge's "*Modern Chivalry*," issued in 1793. The first two volumes were printed in Philadelphia. The last and fourth volumes not being published until 1797 at Philadelphia, having been delayed by charges brought against its author relative to his action in the "*Whisky Insurrection*." This book, a humorous and satirical work, abounding with political and philosophical views, under the guise of pleasure, was the cause of much bitter feeling between the Breckinridge and Craig families, because of supposed resemblance of some of the characters to members of the Craig family.

The publication of this paper, as has always been the case where newspapers have been established in communities, soon began to have its influence in the development of the town. The first of which was the establishment of a post or mail from Philadelphia to Pittsburgh, which was done in the fall of 1786, John Scull being appointed Postmaster. The duties could not have been very exacting, as four years later the postages of the year ending Oct. 1st, 1790, were but \$110.90. John Scull retired from the publication of the *Gazette* in 1818, and died at his residence, near what is now Irwin station, on the Pennsylvania Railroad, February 8th, 1828, aged sixty-three years. On Mr. Scull's retirement from the *Gazette*, his son, John Irvin Scull, succeeded in the control of the paper. He died in his thirty-seventh year, at Brush Hill, Westmoreland county.

In 1786, despite the disparaging accounts the several persons previously quoted have given of the social characteristics of the inhabitants of the town at and previous to that date, there seems to have been inducements to have established a school or seminary for young ladies. A Mrs. Pride, in an advertisement in the Pittsburgh *Gazette*, dated November 10th, 1786, announces that she will open a boarding and day school "in the house where John Gibbon formerly lived, behind his stone house, where there will be taught the following branches of needle-work." This was not the first school in Pittsburgh, however, as in December, 1764, James Kinney, a Quaker, writes in his journal: "Many of ye inhab-

itants have hired a school-master and subscribed above sixty pounds for this year for him. He has about twenty scholars. Ye soberer sort of people seem to long for some public way of worship, so ye school-master reads the Litany and common prayer on ye First Day."

In 1786-87 the Pittsburgh Academy was chartered, which subsequently became the Western University in 1819.

In 1786 the settlement of Elizabeth was made by Colonel Stephen Bayard, who brought a company of ship-carpenters from Philadelphia and began the building of vessels at that point two years later.

Previous to this, in October, 1785, Samuel Walker and Elizabeth Springer, his wife, who had emigrated from Wilmington, Delaware, with their six children, reached the west side of the Monongahela river at Macfarland's Ferry, within half a mile of the Virginia Court House, two miles from the present town of Elizabeth, and settled on the lands owned by Captain Henry Heth. It was at this point that John Walker ferried across the river, from the east to the west side, the whole of Morgan's army, sent in November, 1794, to suppress the Whisky Insurrection.

In 1787, September 27th, was incorporated the First Presbyterian Church of Pittsburgh, a movement possibly quickened by "the longing of the soberer sort of people for some public way of worship."

Previously, on September 24th, 1787, the Penn heirs deeded two and a half lots of ground to the congregation, who at once proceeded to erect a building of squared logs, the site being the same where now stands the beautiful stone building of the First Presbyterian Church. On the 1st of March of this year, at a public meeting of citizens, Hugh Ross, Stephen Bayard and Rev. Samuel Barr were appointed a committee to report a plan for establishing market days, and they reported on March 12th, at an adjourned meeting.

Soon after this the first market-house in Pittsburgh was built near the corner of Market and Second streets.

CHAPTER II.

From 1788 to 1794.

On the 24th of September, 1788, Allegheny County was organized, being taken from Westmoreland County. In 1789 a small addition was made from Washington County. It then comprised all the territory north and west of the Ohio and Allegheny from what was taken by Act of March 12th, 1800, Beaver, Butler and Mercer Counties. Previous to September 24th, 1788, the area now embraced in the bounds of Allegheny were, as before stated, in Westmoreland County, and the county seat was at Hannahtown, thirty miles distant from Pittsburgh. This

caused much dissatisfaction to the inhabitants at and around Pittsburgh, resulting in the County of Allegheny being set off from Westmoreland and Washington Counties.

By the Act Pittsburgh was made the seat of justice temporarily until trustees, who were named in the Act, should construct suitable public buildings on the reserved tract opposite Pittsburgh, on the public square in the town of Allegheny. This town was ordered to be laid out by the Supreme Executive Committee of the Commonwealth September 11th, 1787. This project of locating the county seat in Allegheny town was so strongly opposed by the citizens of Pittsburgh that in the spring of 1788 a supplementary Act was passed, authorizing the trustees to purchase ground on the Pittsburgh side of the river for public buildings, which was done.

The trustees selected the Diamond Square, where the market-house now stands, for the site of the court-house and jail.

There seemed to be some reason for the opposition of the citizens of Pittsburgh to the location of the public buildings of the county on the north side of the river, in the uninviting topography of the land there, as the following extract from a report of D. Redick, dated February 19th, 1788, to the Supreme Executive Committee, would indicate: "I went with several gentlemen to fix on a spot for laying out the town opposite Pittsburgh, and at the same time took a general view of the tract, and find it far inferior to my expectations, although I had thought I had been no stranger to it. There is some pretty low ground on the rivers Ohio and Allegheny, but there is but a small portion of dry land which appears in any way suitable either for timber or soil, but especially for soil; it abounds in high hills and deep hollows, almost inaccessible to a surveyor. I am of the opinion that if the inhabitants of the moon are capable of seeing the same advantages from the earth which we do from that world, I say if it is so, this same famed tract of land would offer a variety of beautiful lunar spots not unworthy the eye of a philosopher. I cannot think that ten-acre lots on such pits and hills will possibly meet with a purchaser, unless, like a pig in a poke, it be kept from view."

Mr. Reddick seems to have considered it rather a joke that any one could have supposed the area where Allegheny City, with its 100,000 population, now stands, could ever be available for a town.

His opinion of his own judgment now, could he revisit the "glimpse of the moon," and survey the pits and hills, would probably be as poor as it was in 1788 of the reserve tract on which he was selected to lay out the town of Allegheny.

Arthur Lee, previously quoted, who, in 1784, wrote in his journal of Pittsburgh, "I believe the place will never be considerable," and Mr. Reddick seem, from their recorded opinion, to have been twins in their judgment. To the contrary, the opinions of two other persons are quoted here. In a volume printed at Dublin, Ireland, 1789, the author writes: "Pittsburgh is a neat, handsome town, containing about four hundred houses. * * * *It is expected the town will, in a*

few years, become the emporium of the western country." A writer in the *Pittsburgh Gazette*, of August, 1789, writing of the cost of the carriage of goods, says: "However important the conveyance may be, and by whatever channel, the importation of heavy articles will still be expensive; the manufacturing of them, therefore, will become more of an object here than elsewhere." In the previous year another glimpse of Pittsburgh is caught from the journal of Dr. Hildreth, who arrived at the town on a boat called the "Mayflower," with a company of four hundred emigrants from New England, in progress to Marietta, Ohio.

After giving a statement of the starting of the "Mayflower" from Robbstown, now West Newton, and the passage down the Youghiogheny and Monongahela, Dr. Hildreth writes: "Pittsburgh contains from four to five hundred inhabitants, several retail stores, and a small garrison of troops kept in old Fort Pitt. To our travelers, who had lately seen nothing but trees and rocks, with here and there a solitary hut; it seemed quite a large town. The houses are chiefly built of logs, but now and then one has assumed the appearance of neatness and comfort."

While from the verbal pictures of Fort Pitt, or Pittsburgh, at that early day by Lee, Wilkens and others, the impression is made that the social surroundings of the town were of a very bad type, even for a frontier town, yet as there were two sides to the famous shield of legendary dispute, one black and the other silver, so it was with the social elements of Pittsburgh. The various armies of Forbes, Stanwix and Boquet, had many educated and polished gentlemen, as well as the detachments of the Federal troops, who were garrisoned at longer or shorter periods at Fort Pitt; and some were accompanied by their families, by whom the habits and elegancies of society were practiced in their social intercourse and their hospitalities to travellers. Especially after the Revolutionary war a number of families of high culture, those of officers of the Federal army and members of the bar in eastern counties were attracted to Pittsburgh, and formed the nucleus of a coterie which was naturally not without its aristocratic coloring and, consequently, social atmosphere. For although a revolution had been made against the government of Great Britain, it was not, in its inception, with a view of establishing a democracy in the sense the word is now popularly construed, but simply a government, independent of Great Britain, which might have become, under certain mouldings, another monarchy.

The writings and history of the times are not without indications that the Republican form of government was the second sober thought of the people, and not without its opposers.

Fort Pitt had, through the period from 1754 up to 1788, also become a center to which had drifted adventurers of all types, Indian traders, hunters, trappers, scouts, desperate men of various nationalities, the followers of the various armies, either French, English or Federal, with an admixture of half breeds. The society of Pittsburgh was thus strongly marked with a dividing line, where on the one half, all the coarseness, wickedness, and illiteracy of the mixed elements of nationalities were, and on the other, mental culture, good breeding, and aristocratic tendencies.

Personal habits and social customs, even in what may be called the higher class of society in the frontier town, were looser and freer than grew to be the custom, and naturally gave still greater license and coarseness to the inhabitants of a lower grade of training. These latter would seem to have been the populace, from which the character of the town was judged, for the reason that to the social amenities of the better class, as instanced, a casual traveller making a brief stay would, probably, have but little admission. H. H. Breckenridge, in his "Recollections" says there was at Pittsburgh in that early day, "a degree of refinement, elegance of manners, and polished society not often found in a frontier town. The Butlers, the O'Haras, the Craigs, the Kirkpatricks, the Stevensons, the Wilkins, and the Nevilles are names that will long be handed down by tradition. Colonel Neville was indeed the model of a perfect gentleman—as elegant in his person and finished in his manners and education as he was noble and generous in his feelings. He was, during the Revolution, an aid to General Lafayette, and at the close of it married an elegant and accomplished lady, the daughter of the celebrated General Morgan."

This is quite a reverse picture to that sketched by Arthur Lee at the close of 1784, where he says, "the town is inhabited almost entirely by Irish and Scots, who live in paltry log houses, and are as dirty as in the north of Ireland, or even Scotland."

As Mr. Lee makes no remarks as to the class of inhabitants of whom Mr. Breckenridge makes mention, some of whom were residents of the town at the time of Mr. Lee's visit, it is evident that he was not a partaker of their hospitalities, and it is presumable that the little town of Pittsburgh, while its houses were perforce built of logs, contained a large number of people who would have shone even in the society of the present day.

It would seem, however, that there was a similarity in the society of the town then to peculiarities of society most anywhere at the present day, as the *Gazette* of March 27th, 1789, says: "The usual drawback on the happiness of a village society (scandal) has begun to show itself, as there is no regular clergyman settled in the town to prevent it." It must, therefore, be concluded that Pittsburgh was in its early days neither better nor worse, so far as its population was concerned, than any similar aggregation of population of those times, and that its descendants from its old families can be proud of their ancestry, even if the male portion did, at times, take a cup too much wine or whisky, bet high on horse races, encourage the selling of lottery tickets to raise revenues for church purposes, and sundry and several other departures from the strict codes of morality, under the somewhat looser habits of life, the freedom and the custom of the times tacitly excused in "gentlemen."

With the organization of the county in 1788 the town, as a county seat, became, naturally, more of a center of population, and began to show faint tracings of the features of its maturer years.

Most of the minor incidents of those early days, being more of a personal character than partaking of general public importance or interest, have perished, having had no record save in the memories of the actors in the scenes of a hundred years since.

As to give in a condensed historical form the local developments of Allegheny County's Hundred Years is the object of the volume, rather than a recollection of individual reminiscences still to be gleaned from fading memories, such occurrences only are mentioned as illustrate the county's growth, and are of greater or less public interest abroad as well as at home. The great manufacturing interest of the county, as better exhibiting their massiveness, and a more compact view of their developments than if scattered through the chronological details of these pages, are presented in separate chapters.

In 1792 Pittsburgh was the point of organization of General Wayne's (Mad Anthony) expedition to the north-west territory, and his troops departed from the town on the 27th of December of that year. All through the previous summer Pittsburgh had been a camp of instruction. After leaving Fort Pitt General Wayne encamped for the winter seven miles above the mouth of Beaver creek. Wayne's expedition belongs to the military history of the north-western territory, rather than to Allegheny County, and is mentioned in connection with its history because of its being the point of preparation for the expedition.

At this time Allegheny County became in part the scene of the occurrences of a revolt against the Federal government, which was viewed with much apprehension by the authorities of the nation. The Federal government was but newly organized, and its powers and rights were but little understood.

As early as 1756 the Province of Pennsylvania had looked to an excise on spirits for revenue. During the revolution the law was in the west generally evaded, and after being for years a dead letter was repealed. When the debts of the revolution became pressing, Congress, on March 3d, 1791, passed a similar law. Opposition was at once begun in the western counties. The inhabitants of that region, descended from the people of North Britain or Scotland and Ireland, had come very honestly by their love of whisky and their hatred of an excise man. The insurgents were following, as they believed, the same right under which the colonies had revolted from England, and made protest against and resistance to an oppressive excise law or tax. At that day there was nothing disreputable in making whisky or in drinking it. Distilling was then considered as moral and respectable as any other business. There was neither home nor foreign market for rye, their principal crop. The grain would not bear transportation by pack-horses across the mountains. Four bushels was a load for a horse, but he could carry in the form of whisky twenty-four bushels. To pay for iron and salt and sugar the farmers of Western Pennsylvania sent their whisky on pack-horses over the mountains. The people had for years, at the peril of their lives, cultivated the ground on which their rye was grown with but little or no protection from the government. The law laid a tax of four pence per gallon on distilled spirits.

The people looked upon this law as unjust taxation and as restraining them from doing what they pleased with any surplus rye they might raise. The members of Congress from Western Pennsylvania firmly opposed the law. Smily, of Fayette, and Findley, of Westmoreland, openly condemned it. Even Albert Gallatin, then a resident of Fayette county, opposed the law by all constitutional means. It was difficult to obtain any one who would accept the office of collector of the tax. To quiet the opposition General John Neville, then residing a short distance from Pittsburgh, was prevailed upon to accept the office. He was a man of great personal popularity, possessing much wealth, and had put his all on the hazard of the revolution for independence. At his own expense he raised and equipped a company of soldiers, marched them to Boston, and placed them, with his son, under the command of General Washington. He was brother-in-law to General Morgan and father-in-law to Majors Craig and Kirkpatrick, who were highly respected throughout the western country. If any could enforce the odious law he, it was thought, could.

The public mind was, however, too highly inflamed to be soothed even under the representations of as popular a man as General Neville. The first public meeting was held at Redstone Old Fort, now Brownsville, on July 27th, 1791. On September 7 delegates from the four counties met at Pittsburgh and passed resolutions against the law. On the 6th of September a party waylaid a collector for Allegheny and Washington and tarred and feathered him. In October a person of weak intellect, named Wilson, who affected to be an excise man, was tarred and feathered and burned with hot irons. On the 15th of September the President issued a proclamation enjoining all persons to submit to the law and desist from unlawful proceedings. In April, 1793, a party in disguise attacked at night the house of Benj. Wells, a collector of Fayette County. On the 22d of November they again attacked his house, and compelled him to surrender his commission and books, and to resign his office. In July, 1794, many other outrages were committed, houses and stills burned. Also in June several serious riots occurred, in which collectors of excise were maltreated in various ways. During these turmoils a term had come into popular use, to designate the opponents to the excise laws, who were called "Tom Tinkers" men. The first application of the term is stated to have originated at the destruction of a still, which was cut to pieces. This was called mending the still, and humorously the members must be, of course, called "Tinkers," and thus "Tom Tinkers" men. The term is said to have originated with one John Holcroft, who was one of the chief leaders of the insurrection, and understood to be the person called "Tom the Tinker." All the proclamations of the insurgents were signed with that designation. "Tom the Tinker" was the pseudonym used either by Holcroft or an attorney called Daniel Bradford, who was admitted to the Bar of Allegheny County in 1788, who seems to have been, during part of the insurrection, the chief or general, while Holcroft seems to have been second in command. Although the law was modified by Congress in 1794, it was still odious. The consequence was that the disturbances still

increased, and on the 16th of July the house of General Neville, seven miles southwest of Pittsburgh, was attacked and burned, several persons being killed and wounded. Various meetings of the insurgents were held at different places, and in July, 1794, a large number of men assembled at Braddocks, to the amount, it is said, of 7,000 men, many in organized companies under arms, for the purpose of attacking Pittsburgh. The insurrectionary feeling had now reached its height. A word in favor of the law was ruin to any one. On the contrary, to talk against the law was the way to office and personal popularity and profit. At the assemblage at Braddocks, when it was proposed by David Bradford, who was present as major general, in full uniform, that the troops should go to Pittsburgh, Hugh M. Breckenridge, who had joined the movement to control, and, if possible, quell it by diplomacy, and in whose writings a full account of the whole matter is to be found, said: "Yes, by all means, at least give proof that the strictest order can be maintained, and no damage done. We will just march through the town and take a turn, come out on the plain on the banks of the Monongahela, and after taking a little whisky with the inhabitants, the troops will embark and cross the river." This was accomplished, and no damage but the burning of one barn done. "The people," says Mr. Breckenridge, "were mad. It never came into my head to use force on the occasion; I thought it safest to give good words and good drink on the occasion rather than powder and balls. It cost me four barrels of good whisky that day, and I would rather spare that than a quart of blood."

On the 14th of August a meeting of 260 delegates was held at Parkinson Ferry, now Monongahela City. Albert Gallatin and H. M. Breckenridge both took prominent part in the discussion. The original force of the insurrection was condensed down to a committee of 60, which was to be represented by an executive committee of 12, who were to confer with the U. S. Commissioners. To gain time, and thus restore quietness, was the object of Mr. Gallatin and Mr. Breckenridge and their friends. The Commissioners proposed an amnesty, which, at a meeting held at Redstone Fort, August 28, was accepted through the arguments of Mr. Gallatin and Mr. Breckenridge. This meeting virtually ended the insurrection, although there were enough malcontents left to render it necessary, in the opinion of the President, to send an army of 15,000 men to Pittsburgh, under General Lee. The army arrived in Pittsburgh in November, but met with no opposition, nor was any blood shed. The army soon returned to their homes; General Daniel Morgan being left with a few battalions to maintain quiet during the winter, and in the spring, order being fully restored, those were withdrawn.

With the army came also General Knox, the Secretary of War, General Hamilton, the Secretary of the Treasury, and Judge Peters, of the U. S. Court. An inquisitorial court was held at Pittsburgh, in which testimony was taken against citizens denounced for treasonable acts or expressions. Only two were tried and convicted, and those afterwards pardoned. Mr. Breckenridge was in personal danger from his course in the insurrection, having been denounced as one

of its leaders. He had taken an active part in the meetings of the insurgents, but his motive, which was to get hold of the counsels of the insurgents, and thereby, as he did, bring the enmity to a peaceable end, had been understood by the Hon. James Ross from the first, and he was, after examination, honorably acquitted. Although David Bradford, H. H. Breckenridge and Albert Gallatin are, in general accounts of this formidable insurrection, prominent, many other of the leading citizens of the town and country took active part in the private and public movements, and at a public meeting held to take action in the matter, General John Gibson, a revolutionary soldier, nicknamed Horse-head Gibson, was the chairman; Matthew Ernest, secretary; H. H. Breckenridge, Peter Audrian, George Robinson, George McMasters, John Wilkins, Andrew McIntyre, George Wallace, John Irwin, Andrew Watson, George Adams, David Evans, Josiah Tannehill, William Earle, Andrew McMickle, James Clow, William Gormley and Nathaniel Irish were sympathizers with the opposition to the excise. With the government were Major Isaac Craig, Judge Alexander Addison, Major Kirkpatrick, General John Neville, Colonel William Butler, James O'Hara, Ebenezer Denny, John Ormsby.

This insurrection, coming so soon after the adoption of the Constitution, caused great foreboding in the public mind as to the permanency of the Republican form of government. President Washington and his cabinet were much disturbed as to the course to pursue. Seven counties were in actual revolt against the laws enacted by Congress and defying the government. At a meeting held at Brownsville, at which the standing committee of the insurgents were to hold a conference with the Federal commissioners who had been appointed in a final attempt at pacification, a flag was raised by the insurgents with seven stars, one for each confederate county, as the standard of what was looked upon by many as an incipient government, to be ultimately declared independent of the United States. Recurring to the despotism evinced by discontented, corrupt and ambitious men, of whom General Irwine wrote in his letter to General Washington, of April 20th, 1782, already quoted from, there is ground for the suspicion that while the whiskey tax was with the public general the motive of resistance to governmental authority, there may have been fomenting the insurrection the same element at work that General Irwin alludes to, to effect a separation from the United States and the establishment of an independent State under British protection if necessary. As before observed, President Washington and his cabinet were greatly exercised by the condition of public sentiment.

That they looked upon it as no ordinary exhibition of merely dissatisfaction with an Act of Congress, but as an organized rebellion, was manifest from the large army, the tried generals sent to restore order, and the large expense incurred so doing. The expenditure costing over one and a half millions of dollars when, at that time, the annual expenditure of the whole government was only about four millions.

The jealousies that remained from the Revolution prevailed to a greater or less degree with the public men, in civil life as well as in the army, the disappointed

ambitions, the lingering Tory elements, and the crude conceptions among the people, especially in the frontier towns, of the powers and rights of a Republican government, made possible many complications. It was felt necessary to assert the supremacy of the Federal government in a decisive manner, and show the people of the infant nation that a strong and genuine government had been established and could be maintained, and thus put an end to any such ideas and schemes as Washington had been informed of by General Irwine, and seem to be incipient in the Whiskey Insurrection.

In connection with this historical incident, it is of curious interest that a mass meeting held at Pittsburgh, August 21st, 1792, of which Albert Gallatin was secretary, and as such signed the proceedings, the following resolution was passed denouncing the conduct of persons in accepting commissions to collect the whiskey tax, "Resolved, that in future we will consider such persons as unworthy of our friendship, have no intercourse with them, withdraw from them every assistance, withhold all the comforts of life which depend upon those duties which as fellow citizens we owe each other, and upon all occasions to treat them with that contempt they deserve, and that it be, and is hereby most earnestly recommended to the people at large to follow the same line of conduct towards them." Here is a vigorous threat of "boycotting" long before the word found a place in the English vocabulary, and as eminent authority as Albert Gallatin to justify the action. It is rather a saddening reflection that nearly a hundred years after the progress of civilization and education, the establishment of over two hundred churches at Pittsburgh should have made no change in the methods of men who are carried away by personal passions, and quite as savage boycott proclamations and resolutions were published in the city in the 1880ties, as when from the frontier habits of thought and action that prevailed in 1792-4, such thoughts and proposed actions were to be expected. The subjoined verses which were published during the Whiskey Insurrection are a relishable bit of local literature to be quoted, as illustrative of the sentiments of the time.

Great Pow'r, that warms the heart and liver,
And puts the bluid a' in a fever,
If dull and heartless I am ever,
A blast o' thee
Makes me as blyth, and brisk, and clever
As any bee.

I wat ye are a cunning chiel,
O' a' your tricks I ken fu' weel,
For aft ye hae gien me a heel,
And thrown me down,
When I shook hands wi' hearts so leel,
Ye wily loun.

When fou o' thee on Scottish grun',
 At fairs I've aften had muckle fun,
 An' on my head wi' a guid rung,
 Gat mony a crack :
 An' mony a braw chiel in my turn,
 Laid on his back.

An' here, tho' stick be laid aside,
 An' swankies fight in their bare hide ;
 Let me o' thee ance get a swig,
 I'll tak my part,
 An' bite, and —, and gouge and tread
 Wi' a' my heart.

Great strength'ning pow'r, without thy aid
 How could log heaps be ever made ?
 To tell the truth, I'm sair afraid,
 ('Twixt ye and me)
 We want a place to lay your head,
 Hadn't been for thee.

But when the chielis are fou' o' thee,
 Och ? how they gar their axes flee,
 Then God hae mercy on the tree,
 For they hae nane,
 Ye'd think (the timber gaes so free)
 It rase its lane.—

Without thee how cou'd grass be mawn ?
 Grain shear'd, and into barn-yards drawn ?
 An' when auld wives wi' faces thrawn
 Ly in the strae,
 I doubt, gin ye were nae at had',
 There'd be great wae.

But it wou'd tak a leaf and mair
 To tell o' a' your virtues rare ;
 At wedding, gossipping and fair,
 Baith great and sma'
 Look unco dowff if ye'r na there,
 Great soul o' a'.

Then foul befa' the ungratefu' deil
 That wou'd begrudge to pay right weel,
 For a' the blessings that ye yiel
 In sic a store ;
 I'd nae turn round upo' my heel
 For saxpence more.

They were written by David Bruce, who came from Maryland in 1784, and settled near where Burgettstown now is, in Washington County.

These lines were published in the *Western Telegraph*, printed at Washington, Pa. This and other poems, together with replies by H. H. Breckenridge, under *nom de plume*, were published in or about 1801, in a volume now rare.

CHAPTER III.

From 1794 to 1811.

With the final settlement of the "Whisky Insurrection," Pittsburgh began to fall into city shape, if the expression may be allowed. In 1794 the Act was passed April 22d incorporating the town of Pittsburgh into a borough. The first court-house and jail were completed; the Eagle Fire Engine Company was organized, and a line of boats to carry passengers between Pittsburgh and Cincinnati were started, of which a further account is subsequently given in the chapter treating of the ship and boat building at the former city. In 1795 the lumber trade of Pittsburgh had its inception by the action of Major Thomas Butler, then commanding at Franklin. He had been informed that the Seneca Chief, Gyantawachia, or Cornplanter, as he was called by the English, had at his saw-mill a large quantity of boards. Major Butler dispatched and sent one Marcus Hulings, with three bags of money, to buy the lumber. He also sent James Beard with a letter to Cornplanter to inform him of Hulings' mission. The following reply from Cornplanter is given from Craig's *Olden Time*:

"GENESADEGO, 3d December, 1791.

"I thank the States for making me such kind ofers. We have made peace with the United States as long as watter runs, which was the reason that I built a mill in order to support my family by it. More so because I am getting old and not able to hunt. I also thank the States for the pleashure I now feel in meeting them again in friendship. You have sent a man to make a bargain with me for a sertain time which I do not like to do; but as long as my mill makes boards the United States shall have them in preference to any other, at the market price, and when you want no more boards I can't make blankets of them. As for the money you sent, if I have not boards to the amount, leave it and I will pay it in boards in the spring."

This famous Indian chief is frequently mentioned in connection with the business of Pittsburgh in its earlier days, and he was often a resident of the town. It is said he at times spent a winter with his family in the city, occupying the basement cellar of a house on Irwin street (now Seventh), below Penn. The traffic of the Pittsburgh merchants with the Indians of Cornplanter's tribe in the earlier days seems to have been then an important element in the business of the town. Of this H. H. Breckenridge says in his "Recollections": "Who would imagine

that the arrival and encampment of the Cornplanter Indians on the bank of the Allegheny would make a great stir among our merchants. It was quite a cheering sight, and one that made brisk times, to see the squaws coming in with their packs on their backs."

Cornplanter was born at Cenewaigus, on the Genesee river, and was a half-breed, the son of a white trader named John O'Blail. When about twenty years of age he was allied with the French, and was in the engagement of Braddock's Field. During the revolution he was an Indian chief of high rank, and participated in the principal Indian engagements against the United States. He was on the war path with Brandt during General Sullivan's campaign in 1779, and in the following year he led the Senecas in an inroad through the Mohawk Valley. On this occasion he took his father prisoner, and making himself known to him, offered to provide for him if he chose to remain with the Senecas, or to send him back unharmed if he desired to return, which latter course he chose. Cornplanter became the fast friend of the United States when hostilities ceased, and threw all his influence in favor of peace at the treaty of Fort Stanwix and Fort Harmer. For his course on those occasions the State of Pennsylvania granted him the reservation on the Allegheny on which he resided. In what absolute faith the Seneca chief accepted the reservation as a gift is illustrated by an incident. In 1821 the commissioners of Warren County assumed the right to tax his property; the old chief resisted, considered it not only unlawful, but a personal indignity. When the sheriff came with a small posse to enforce the collection of the tax, Cornplanter took him and his posse into a room, around which were arrayed about one hundred rifles, and with Indian brevity intimated that for each rifle an Indian would come upon the ground at his call if the sheriff did not withdraw. The sheriff promptly withdrew, threatening to call out the militia. Prudent citizens, fearing a collision, sent for the old chief, and persuaded him to give his note for the tax. He, however, addressed a remonstrance to the Governor, asking a return of the money and an exemption from tax. This the Legislature granted, and sent two commissioners to him to explain the occurrence.

After peace was fully established between the Indians and the United States Cornplanter retired from public life, and devoted his labors to his own people. He entertained a high respect and friendship for General Washington, which Washington fully reciprocated. When Washington was about retiring from the Presidency Cornplanter made a special visit to Philadelphia to take leave of him.

He deplored the evils of intemperance, and exerted himself to suppress it. In the war of 1812 Cornplanter took no part, although the Senecas took sides with the United States. His son, Major Henry O'Blail, and his intimate friend, Half-town, were conspicuous in several battles on the Niagara frontier. Cornplanter died at his residence on his reservation March 7th, 1836. He was at all times hospitable to emigrants. Mr. James Shidle, who came to Pittsburgh in 1805, stopped at Cornplanter's reservation with his family on his way down the Allegheny, and was entertained a night and day by the old chief. Mrs. Shidle, who is still living, recalls the incident with pleasure.

As the rafting of the lumber down the Allegheny to Pittsburgh continued to increase, the Cornplanter Indians were large factors in its transportation, and the spring and fall freshets always brought numbers of the tribe in charge of rafts to Pittsburgh.

Whatever may have been the chief's efforts to suppress intemperance, they seemed to be nugatory when once his young men landed their lumber at Pittsburgh. "Fire water" they wanted, and "fire water" they had, and the precincts street of old Irwin, now Seventh, and Duquesne way was the scene of many of their drunken escapades.

Up to the present day the lumber rafts that float down the Allegheny have among their owners descendants of the old Seneca tribe, who still inhabit the Cornplanter reservation.

In 1796 another matter of commercial importance to Pittsburgh occurred, through the energy and commercial sagacity of General James O'Hara, by which a great revolution was effected in the supplying of salt to Pittsburgh and the west. Of this Judge Wilkeson gives the following account: He entered into a contract with the government to supply Oswego with provisions, which could then be furnished from Pittsburgh cheaper than from the settlements on the Mohawk. General O'Hara was a far-sighted calculator; he had obtained correct information in relation to the manufacture of salt at Salina, and in his contract for provisioning the garrison he had in view the supplying of the western country with salt from Onondaga.

This was a project that few men would have thought of, and fewer undertaken. The means of transportation had to be created on the whole line; boats and teams had to be provided to get the salt from the works to Oswego; a vessel built to transport it to the landing below the falls; wagons procured to carry it to Schlosser; then boats constructed to carry it to Black Rock. There another vessel was required to transport it to Erie. The road to the head of French creek had to be improved and the salt carried in wagons across the portage; and, finally, boats provided to float it to Pittsburgh. It required no ordinary sagacity and perseverance to give success to this speculation. General O'Hara, however, could execute as well as plan. He packed his flour and provisions in barrels suitable for salt. These were reserved in his contract.

Arrangements were made with the manufacturers and the necessary advances paid to secure a supply of salt. Two vessels were built, one on Lake Erie and one on Lake Ontario; and the means of transportation on all the various sections of the line were secured. The plan fully succeeded, and salt of a pretty fair quality was delivered at Pittsburgh and sold at four dollars per bushel, just half the price of the salt obtained by packing across the mountains. *The vocation of the packers was gone.*

In this year, also, General O'Hara took the first steps toward the establishment of what, under the progress of years, has been one of Allegheny County's most important manufactures. He, in connection with Major Isaac Craig, arranging in

1796, to establish a window glass factory at Pittsburgh, although the works were not in operation until 1797. Of this enterprise, together with the subsequent progress and development of the industry, further account is given in the chapter devoted to the history of glass manufacturing in the city and county, as being in a continuous recital more satisfactory to those interested than in the various chronological periods of this general history. With this year it may be considered that the destiny of Pittsburgh as a manufacturing center began to develop.

Situated at the head of a great reach of the cheapest transportation known, with the Indians being gradually quieted by government policy, and driven back by the advancing current of emigration, the future, to sagacious commercial minds, gave promise of a broad and wealthy market. This would, of necessity, demand all the heavier kinds of manufactured articles whose transportation across the mountains by the methods then in vogue, would greatly enhance their cost. With abundant material in easy reach to produce these Pittsburgh seemed, logically, the national supply point of the west.

From the early circumstances of the settlement founded amid horrors of the French and Indian wars, and the succeeding contests by which a population, largely of brave, hardy, but in most cases uncultured men, skilled more in woodcraft and arms than commercial pursuits, formed the nucleus of the settlement, the first impression would be that commercial enterprise and manufacturing knowledge would be wanting to give that direction to the business character of the settlement which would and did plant the germs of its present greatness. With the occupation of Fort Duquesne by Forbes' army, came men in various positions in the forces with acute and commercially educated minds. To them, as well as to their correspondents in the east, the possibility of profitable traffic with the Indians for their furs and peltry, had the same attractions that has preceded the march of commerce across the continent, and drawn by certainties of gain men from the safer haunts of business to the dangers and discomforts of the frontier.

This fur trade of the west was important in the closing decade of the eighteenth century, and Messrs. Peter Maynard and William Morrison were largely engaged in it at Pittsburgh from 1790. They received supplies of goods from Mr. Guy Bryan, a Philadelphia merchant, which goods were taken to Kaskaskia in barges, that returned yearly to Pittsburgh laden with bear, buffalo and deer skins, which were sent to Philadelphia. The war of the Revolution had brought to Pittsburgh such men as General Neville, General O'Hara, Major Kirkpatrick, Denny and others, while previously Colonel Croghan and other governmental Indian agents had from their duties been permanent settlers, with whom came the Craigs, Bayards, and other men of ability. With the army sent to quell the Whiskey Insurrection, came many young men from the eastern States, who having become impressed with the opportunities at Pittsburgh, came back and settled after the army returned.

The establishment of Allegheny County and the selection of Pittsburgh as its county seat opened a fresh field for the ambitious young members of the bar at

Carlisle and other eastern towns, and added to the material whose impulses and judgment strengthened the commercial spirit of the town, of whom were Breck-enridge, Wilkins, Ross, Addison and other men of culture and energy.

There had, therefore, congregated at Pittsburgh much of the material on which to build a manufacturing community, needing but a leader to make the first forward move in that direction. This General James O'Hara was, and likewise Isaac Craig. From the traces of General O'Hara in the records of the times he seemed not only to have been a man of enterprise, but also of great persistent energy and executive ability. General O'Hara seems, however, to have been but a good second in the founding of Pittsburgh's leading manufactories, although pioneer in glass. In iron this credit belongs to Mr. George Anshutz, an Alsatian, who emigrated to the United States in 1789, at the age of thirty-six years; and in the year of 1792-3 came to Pittsburgh and built a blast furnace at what is now Shadyside station, on the Pennsylvania Railroad. This point was about three miles distant from the town boundaries at that time, but is now nearly, if not quite central, in the city of to-day. The place where the furnace was built is still marked by an old sycamore tree, just beyond the Shadyside station, on the north side of the road.

At the time that Mr. Anshutz projected his furnace there were indications of iron ore at the location, and tradition says a small deposit of it. The exact date of the blowing in of the furnace or what was its capacity is not of record, but it was in blast in 1794.

This, however, was not the case. The red shale that abounded in the neighborhood was assumed to be indications of iron, and without making any critical examinations the furnace was built, on the presumption that the iron ore was there. When ready for the blast it was discovered too late that there was no ore in the vicinity. The parties interested proceeded to get ore from Roaring creek, on the Kiskiminitis, which they boated down that stream to the Allegheny, and down that river to Pittsburgh.

It was not found profitable to bring ore from Kiskiminitis to the furnace for smelting, and the furnace was blown out. Whether it would have been subsequently put in blast again cannot be said. It is, however, stated that the "Whisky Boys" were one cause of its abandonment. The company had about one thousand cords of wood cut and piled at a point now in the Fourteenth ward of the city of Pittsburgh, locally known as Oakland. This the "Whisky Boys" set fire to and burned. The loss of this, with other discouragements, led to the final abandonment of the furnace.

From this circumstance the strides that manufactures have made in Allegheny's hundred years is forcibly shown. When, at the time of the existence of the Shadyside furnace, it would not pay to bring ore a distance of twenty-five miles, ores for Pittsburgh furnaces are now brought from Lake Michigan and other equally long distances, and even from parts of Europe and Africa. Through the decade from 1790 to 1800 Pittsburgh seems to have been gradually accreting

population and fresh business enterprises. Previous to 1796 the number of inhabitants said to be in the town are merely estimated by various persons, chiefly travelers, and vary much.

In 1793 the taxable inhabitants were found to be 2,510, and 64 stores. In 1796 a local census was taken, and the population of Pittsburgh is given at 1,395, and the number of houses at 102.

In this year the ramparts of Fort Pitt were still standing, and a portion of the officers' quarters. Outside the fort, next to the Allegheny river, was a large pond, a resort for wild ducks. On what is now Liberty avenue, from Fifth avenue to Fourth avenue, was another pond, and there was another pond at Wood street and Third avenue.

Another pond extended along the north side of what is now Grant street, from Fourth avenue to Seventh street. It was in the morass created by this pond that Captain McDonald's Highlanders became bemired and suffered such slaughter at Grant's defeat.

To follow up in complete chronological sequence the progress of Allegheny County in manufacturing industries from this period, while involving confusion to the mind, would be an unsatisfactory method of giving a clear understanding of the growth and massiveness they have attained. As a more satisfactory presentation separate subsequent chapters, or sections thereof, are devoted to each of the staple products of Pittsburgh. While this is a review of Allegheny County's hundred years, it virtually becomes one of Pittsburgh almost entirely. At even the early period of 1803 the progress of the town was in most all interests that of the county, with the exception of its agricultural progress, which was small and uninteresting. To-day Pittsburgh and Allegheny cities are in fact the county, for the numerous suburban villages and towns, as Sharpsburg, Braddocks, McKeesport, Tarentum, Homestead and Verona, which contain the bulk of the county's population, outside of the two cities, are but extensions of the city's wards, so closely do factories and dwellings line the roads to and between. In the streets and offices of the city of Pittsburgh and Allegheny the business of the county is virtually transacted and managed. There are, however, various interesting and important events in the flow of the hundred years that are strictly general county history, and some few of the details of the early manufacturing which are necessary to give a perfect verbal panorama of the hundred years in which Allegheny County has been one of the most important divisions of the nation. This is so markedly manifest that the thoughtful reader of its history is impressed with the influence its public sentiment, and its action, whether in political or commercial affairs, has exerted. Allegheny County may well be proud of its record, and the country proud of Allegheny County. It is the nursery in which has been nurtured and educated the manufacturing industries of the west. Through its action, influence and capital many of the more important mineral developments of the country have been made. Always unwaveringly loyal to the government, it has never faltered in response to its calls, and been first and foremost in all movements

where the interests of the nation, whether of business or industrial rights, were to be sustained. Grown up from a little knot of frugal, hard-working people, its population has lost nothing of the earlier characteristics of its pioneers, for although wealth and culture have with the passing of years come to its inhabitants, industry is still their leading trait. To be an idler, whatever the person's wealth, is far from being an honorable distinction in Allegheny County, and there are few who do not sedulously pursue some profession or branch of business.

From 1800 to 1810, there are apparently no events rising above those pertaining to individual enterprise, or attaching to individual fortunes. In 1810 the population of the town of Pittsburgh was, by census, 4,768, and it contained 641 houses. During that decade manufacturing establishments gradually increased.

In 1801 the first sea-going vessel arrived at the wharves of the town, being the schooner "Monongahela Farmer," built at Elizabeth, and loaded with flour. In the same year the schooner "Amity" and the ship "Pittsburgh" were built at Pittsburgh. Of these and subsequent vessels, in the chapter devoted to "Boat Building at Pittsburgh," the full history is given.

At this time the expense of sustenance in Pittsburgh was small. The prices in market that year were, beef, 3 to 5 cents a pound; of pork, 3 to 4 cents; mutton, 4 to 5 cents; venison, 3 to 4 cents; flour, \$1.25 a hundred weight; potatoes, 25 cents a bushel; butter, 10 cents a pound; turkeys, 40 cents.

In 1802 a French physician by the name of Michand, who visited Pittsburgh, says:

"The houses are almost all of brick, and there are almost four hundred of them, the greater part of which are built on the bank of the Monongahela, and it is on that side that the commercial portion of the town is built. As many of the houses stand separately, and at considerable distance apart, the whole surface of the triangle is actually occupied, and they have already begun to build on the high hills which command the town."

In 1803 the first foundry was erected at Pittsburgh, by Joseph McClurg. In this year a full census of the value of the manufactures at Pittsburgh was taken, and appears to be an exhibit of which the citizens were quite proud, for in *Cramer's Almanack* of 1804 is this mention: "Do not be astonished when we inform you that the value of articles manufactured at Pittsburgh in 1803 amounts to upwards of \$350,000." A detailed list is given in the *Almanack*, in which is the item—"Glass Cutting. N. B., equal to any cut in Europe, \$500." This was no doubt the work of Peter William Eichbaum, whom Messrs. O'Hara and Craig engaged in 1796 to superintend their glass works.

There are also in the list some items illustrative of the character of the day. Four hundred spinning wheels at three dollars each are mentioned, bringing up thoughts of the thrifty Scotch-Irish matron, and the home-spun garments; likewise, two hundred cowbells, telling of straying cows and giving visions of flaxen-haired "lads" and "lassies" seeking them in the bushy woods; also, buckskin breeches to the amount of \$500, suggestive of the trapper and scout and the Indian trail.

In 1804 the first bank was established at Pittsburgh, being a branch of the Bank of Pennsylvania. In this year an election was held for "twelve respectable citizens for town councils, one burgess and one high constable." The contest for burgess was an exciting one and the total vote cast was 246, of which Pressly Neville received 143 and James O'Hara 103. The expenses of the county that year were \$4,067.83, and the treasurer's salary was \$125, Mr. Ebenezer Denny being treasurer.

In the same year one of those lamentable events arising out of the so-called "Code of Honor" of that period, occurred at Pittsburgh. Some personal differences between Isaac Meeson, of Fayette county, and Henry Baldwin, of Pittsburgh, having arisen, a duel was the consequence. The duelists met on the lot where the Pennsylvania Company's buildings now are. The agreement was to fight until one was *hors du combat*. At the first fire Meeson's ball struck a Spanish silver dollar in Baldwin's vest pocket, and he fell, being thought at first to be killed. This was soon discovered not to be the case, the ball only having raised a lump on his skin and caused a little spitting of blood. The pistols had been loaded for a second shot, when Judge Riddle, with a posse, appeared on the scene and stopped the combat. Mr. Meeson was a son of Col. Isaac Meeson, an iron master of Fayette county. Mr. Baldwin was a New Englander. In later years, Gen. Jackson, when President of the United States, invited him to become Secretary of the Treasury; he had prepared to go to Washington. President Jackson was overruled by Joel B. Sutherland and appointed Samuel D. Ingram, and Mr. Baldwin was given a seat on the bench of the U. S. Court. Meeson was a Federalist, and Baldwin what was then called a Republican. The pretext of the duel was party politics, but it was understood that a rivalry for the hand of a young lady was the underlying cause. Another duel was also fought about two years after, on the grounds near what is now the intersection of Forbes street and Craft avenue, between Tarleton Bates and — Stewart, in which Tarleton Bates was killed.

The progress of the industries of the county in the decade from 1800 to 1810, were almost entirely at Pittsburgh. As before mentioned, in 1803, the articles manufactured at Pittsburgh was valued at \$350,000. In 1806, it is noted in *Cramers Almanack*, that "two very important manufactories have lately been erected and are now in operation. The one a cotton factory that can spin a hundred and twenty threads at a time with the assistance of a man and a boy." * * * "The other an air foundry, for the purpose of casting pots, kettles, mill iron, etc."

This is probably the foundry of Joseph McClurg, established in 1803. It is also mentioned that "Mr. Lintot has been engaged some time in building a boat to go up stream with the assistance of horses. If the plan succeeds it will be attended with many important advantages to those concerned in the trade of the rivers."

This remark is strikingly illustrative of how near mankind is often unknowingly to the greatest developments in the progress of civilization. It was but five years after Mr. Lintot's efforts to construct a boat that would go up stream with the aid of horses, no doubt watched with great interest by "those concerned in the

trade of the rivers," that the citizens of Pittsburgh saw afloat on the Monongahela a boat that went up stream without horses.

In 1807, it is mentioned in the same publication, "this town is growing rapidly into importance." The following manufactories are recorded: "O'Hara's glass factory, Kerwin & Scott's cotton factory, McClurg's air furnace, Poters, Stringer and Stewart's nail factory, two extensive breweries, O'Hara and Lewis, two rope walks, Irwin and Davis, three copper and tin factories, Gazzam's, Harbeson's, and Banting & Miltenberger's."

In 1808, *Cramer's Almanack* gives a detailed account of the business establishments in the town, and the list enumerates eighty-five classes of business, and embraces three hundred and ninety-nine of what is styled "master workmen." The effort seems to have been to make the roll exhaustive, for in it is included four physicians and twelve school mistresses, but singularly in such a sweeping classification there is no mention of lawyers.

Why attorneys were not master workmen, but physicians so considered then, may be left to such humorous conjectures as the reader pleases, when eight butchers are also classed as "master workmen."

The wants of the women for spring bonnets and the latest fashion in dress, seems to have been well supplied, as the list gives six milliners and twelve mantua makers, besides one glove maker.

There are fifty store keepers enumerated, and thirty-three tavern keepers. As at this time there were only about forty-seven hundred inhabitants, men, women and children, in the town, the supply of this latter class of "master workmen" seems to have reached a pass which now a days, is styled "over production," and must have given a fair test as to the virtue of competition in cheapening costs. Two barbers, and thirteen tailors provided in their lines for the wants of the male population, and a flute and jews-harp maker was at the service of those of musical tastes.

In 1810, *Cramer's Almanack* says, about 80,000 yards of flaxen linen, coarse and fine, are brought to market at Pittsburgh yearly, and remarks, in commenting on some made by a Mrs. James Gormley, "Let it be no longer foolishly and roundly asserted that American flax will not make, nor the American women cannot, fine linen."

In connection with this it is noteworthy that all the publications of that date contain articles, and many from distinguished citizens, urging the manufacture of linen and attention to the culture of flax. Pittsburgh appears to have been looked to as the most important point for the establishment of the manufacture of linen. The value of the manufactures of Pittsburgh in 1810, is given in a census by the U. S. Marshal, at two millions of dollars.

It would, no doubt, be interesting to give some account of the social characters and events of the decade, but the columns of the *Gazette*, the *Federal* and the *Tree of Liberty*, the newspapers that were then printed at Pittsburgh, furnish little or nothing to glean such matters from. The prototype of the "Topical Talker,"

"Quiet Observer," and "Rounder," of the *Gazette*, *Dispatch*, and *Post* of 1888, did not exist, and the "Society Editor" and "All Sorts" man of the *Leader* was as yet an unmaterialized being.

It can only be judged from the foregoing resume of manufacturing progress that Pittsburgh was a thriving and growing town, beginning to assume the appearance and importance of a commercial center, and that from the two duels that the jealousies, political rancors, and personal ambitions, at all times incident to men, were as active then as now. There are some incidents of a biographical nature, which, while chronologically here in place, more properly find their place in subsequent chapters, relating to the business that from this time grew and increased to the magnitude they attained in the following seven or eight decades.

CHAPTER IV.

From 1811 to 1846.

The building of the first steamboat at Pittsburgh in 1811, was an incident in the history of the town, fraught with results of great moment, not only to Allegheny County, but likewise to the entire west, and absolutely to the commerce of the world.

Its results are too well known to need comment beyond that which the reader's own thought formulate. It was one of those occurrences in the progress of civilization, twin in importance with the art of printing, as creating great revolution in social and commercial life, and it should be regarded as one of Allegheny County's proudest historical incidents, that the full success of Fulton and Rosewalt's invention and the first fully practical steamboat was accomplished at Pittsburgh and built by her mechanics.

Another leading incident at this date, in the progress of Allegheny County, is its historical connection with the war of 1812, in the volunteering and departure of the old "Pittsburgh Blues," a military company organized some years previous under the laws of the State of Pennsylvania, to join the north-west army under Gen. William Harrison, who became President of the United States in 1840. This is generally accepted as the first military organization of Pittsburgh. There was, however, a cavalry company organized in 1799, of which Dr. George Stevenson was captain; also a light infantry company, commanded by Hon. William William, in January, 1804, and disbanded July 4th of the same year. Preparatory to their departure the Blues went into camp on the 10th of September, 1812, on Grant's hill; on the 20th they were ordered to the north side of the Allegheny river, and went into camp on the North commons, near what is now Sherman avenue; on the 21st, the site of their camp was changed to the banks of the Ohio river, at a point where

Beaver avenue reaches its bank; on the 23d, they embarked on keel boats and moved down the Ohio, on their way to join the troops on the Maumee. By the muster roll of the company it was sixty men strong, and composed of the following rank and file:

Officers.—James R. Butler, Captain; Mathew Magee, First Lieutenant; Elijah Trovillo, First Sergeant; Isaac Williams, Second Sergeant, wounded at Fort Meigs, May 5th, 1813; John Willock, Third Sergeant, wounded at Fort Meigs, May 9th, 1813; George Haren, Fourth Sergeant; Nathaniel Patterson, First Corporal; John W. Benny, Second Corporal; Samuel Elliott, Third Corporal, wounded at Mississinewa, December 18th, 1812; Israel B. Reed, Fourth Corporal, wounded at Mississinewa, December 18th, 1812; James Irwin, Ensign.

Privates.—Robert Allison; Daniel C. Boss, wounded at Fort Meigs, May 5th, 1813; Isaac Chess, wounded at Mississinewa, Dec. 18th, 1812; John Deal, John Davis, John D. Davis, Andrew Deemer; Joseph Dodd, wounded at Mississinewa, Dec. 18th, 1812, died June 16th, 1813; Thomas Dobbins, wounded at Fort Meigs, May 5th, 1813; J. Elliott, Oliver English, Enoch Fairfield, Samuel Graham, Nathaniel Hall, Samuel Jones, Jon Francis Lonsong, killed at Mississinewa, Dec. 18, 1812; Jesse Lewis, Peter S. Lewton, George MacFall, Thomas McClernin, Robert McNeal, Norris Matthews, John Maxwell; Oliver McKee, killed May 28th, 1813; Nathaniel McGiffin, discharged for disability; John Marcy, discharged for disability; Moses Morse, Joseph McMasters; Pressly J. Neville, promoted to Sergeant; James Newman, killed at Fort Meigs, May 5th, 1813; William Richardson, killed at Fort Meigs, May 5th, 1813; John Park, wounded at Fort Meigs, May 5th, 1813; Matthew Parker, John Pollard, Charles Pentland, Edward F. Pratt, George V. Robinson, Samuel Swift, Thomas Sample, Henry Thompson, Nathaniel Vernon, David Watt, Charles Weidner; Charles Wahrendorf, wounded at Fort Meigs, May 5th, 1813; George S. Wilkens, promoted, May, 1813.

They were included in a detachment of six hundred men who were ordered by General Harrison, on the 25th of November, to march from his headquarters and destroy the Indian towns on the Mississinewa river, and participated in the battle there fought. They were also at Fort Meigs while it was besieged by the English. The "Blues" were also a part of the force of two hundred men who, under Major George Croghan, made such a brilliant defence of Fort Stevenson against General Proctor and five hundred English troops and five hundred Indians.

Of the services of the "Blues" at this brilliant defence there is recorded that the enemy, concentrating the fire of all their guns on the northwest angle of the fort, Major Croghan supposed that when the British attempted to storm the fort the attack would be at that angle. "Seeing this, he ordered Sergeant Weaver and six privates of the Pittsburgh Blues to place there bags of sand and flour. This was done so effectually that that angle received no material damage from the enemy's guns." Major Croghan had but one cannon in the fort, a six-pounder. This he placed in such a position as to rake the ditch in case the enemy attempted to scale the walls at that point. This *only* cannon was given in charge of Sergeant

Weaver and his six men to handle. When, late in the evening of the 2d of August, the British storming column attacked the fort, Sergeant Weaver and his six Pittsburghers opened the masked port hole at which they stood around their six-pounder, and the piece was discharged at the assailants, then only thirty feet distant. Death and desolation filled the ditch around the works into which the attacking force had leaped in their charge. Fifty were instantly killed and wounded, and the scaling column fled in dismay, nor did they renew the attack; and at three o'clock that night Proctor and his men retreated. Another incident illustrative of the material of this company is pardonable here. The person narrating it says: "I had been in attendance on Captain Butler, lying sick in one of the block houses of Fort Meigs during its siege, and starting out one morning to procure some breakfast, saw Sergeant Trovillo cooking coffee over some coals. I told him my errand, and he told me to wait a few minutes and he would divide his coffee with me. I took a seat, and in a moment or two afterwards heard the peculiar singing of an Indian rifle ball that entered the ground a short distance from where we were sitting. Hurrah! says I; Seageant, what does that mean? He pointed to a tree at a considerable distance from the pickets, where I observed an Indian perched on one of the branches. He said, with great good humor: 'That rascal, George, has been firing at me ever since I commenced cooking my breakfast.' I swallowed my tin-cup of coffee pretty expeditiously, during which, however, I think, he fired once or twice, and I told Trovillo I was not going to remain a target for the yellow-skins."

The equipments for the fleet of Commodore Perry upon Lake Erie were, in a great measure, furnished from Pittsburgh, a portion of the cannon being cast in the old Pittsburgh foundry, which formerly occupied ground at the corner of Fifth avenue and Smithfield street, where the present postoffice now stands, and the cordage was furnished from the rope walk of John Irwin, then in existence at the "Point," as the ground at the junction of the Monongahela and Allegheny rivers was called. The steamer Enterprise, of forty-five tons measurement, the fourth steamboat that navigated the western rivers, took from Pittsburgh some of the cannon and other munitions of war used at the battle of New Orleans. Leaving Pittsburgh on the 1st of December, 1814, under the command of Captain Henry M. Shreve, it is said that her timely arrival aided greatly in the success of General Jackson.

The year of 1812 is also notable in this historical sketch, as on the 28th of August of that year Charles Avery came to Pittsburgh and entered into the drug business with a Mr. VanZandt. It was not his thus engaging in business that entitles his name to prominent mention in the history of Allegheny, but because of his philanthropy and the interest he took at that early day in the advancement of the African race. He was thoroughly anti-slavery in sentiment and practice, when such sentiments meant almost ostracization by his fellow citizens.

In order to test his convictions by actual experiment, he erected, in the latter years of his life, at his own cost, a college edifice, which now bears his name,

dedicated to the education of the African. He died in the city of Allegheny January 17th, 1858, before the college was finished, and left a bequest of \$25,000 to aid in its maintainance. Mr. Avery's fortune was estimated at his death at \$800,000, of which he left a large proportion for the education of the colored people in the United States and Canada. A monument to his memory is erected in the Allegheny cemetery.

In 1812 the Pittsburgh Manufacturing Company began business, which was later merged in the present Bank of Pittsburgh, which organized for business November 22d, 1814, of which a fuller account is given, as also all subsequent banks of the county, in a special chapter.

In 1816 an Act was passed by Legislature erecting Pittsburgh a city under the style of the "Mayor, Aldermen and citizens of Pittsburgh." Ebenezer Denny was elected the first Mayor, his term being from July 9th, 1816, to July 20th, 1817. He was born in Carlisle March 10th, 1761, and was a dispatch boy to Fort Pitt in 1774, at the age of thirteen. He was a commissioned officer of the first Pennsylvania line, and served through the southern campaign that ended at Yorktown. He was commissioned Captain of "Allegheny Company" of State troops, one of the earliest formations of State militia authorized by the State Assembly in the early part of 1794 to defend the western frontier against the Indians. He was also adjutant to General Harmar in his campaign of 1790, and an aid to General St. Clair.

On June 11th, 1816, the first election for managers of the Monongahela bridge, the first bridge across the river at Pittsburgh, was held, at which William Wilkins was elected President and John Thaw, father of William Thaw, Vice President of the Pennsylvania Company, Treasurer and Clerk.

He was annually re-elected until 1861, when he declined re-election. The contract for building the bridge was let on the 9th of July, to Louis Wernwag and Joseph Johnstone. This bridge, as being one of the important thoroughfares between the main city and the south side across the Monongahela river, claims a brief line as to its eventful history. Chartered by Legislature in 1810, the charter was suffered to lapse, but renewed in 1816. It was opened for public travel on December 31st, 1818, having cost \$102,450. In January, 1831, the first pier on the Pittsburgh side gave way and precipitated the span into the river. In the great fire of 1845, it was burned and replaced by a wire suspension bridge under the direction of John A. Roebling, the builder of the great East River bridge, N. Y.

In 1880, the bridge had become unsafe for public travel, and a new bridge was decided on, which was commenced in 1881, on the plans of Mr. G. Lindenthal, and completed August, 1883, and the total cost of the bridge being \$458,000. In 1816 was also organized the Allegheny Bridge Co., William Robinson, Jr., being elected president. He was the first child of white parentage, in what is now the city of Allegheny, having been born on the 17th of December, 1785, in the first log house erected on the present site of that city. His father was the ferryman who conveyed the people over the Allegheny in those early days. General Robinson, as

he was called, acquired the title through a commission in the State militia. He was the first president of the Ohio and Pennsylvania R. R., and the first president of the Exchange Bank, and at one time a member in the State Legislature. He died in 1868, on the 25th of February, having continued to reside on the grounds where he was born, although the log cabin had many years before given place to a handsome residence. The bridge of which he was, as before stated, president, cost \$80,000 to build. In 1860 it was replaced by a wire suspension bridge, built under contract by John A. Roebling, at a cost of \$250,000. The State of Pennsylvania owned \$40,000 of the stock in the first bridge. This stock was sold in 1843 by the State, realizing over \$30 per share on a par value of \$25.00.

In 1816, was also laid out that portion of the city of Pittsburgh, now its ninth, tenth and twelfth wards, by George A. Bayard and James Adams, and long known as Bayardstown. Lots were sold in perpetual lease at \$1.25 to \$2.50 per foot. Shortly afterwards a portion of the second ward, from Ross street running out Second avenue, was laid out by William Price and was then known as Pipetown.

The town appears to have continued to gradually acquire increased importance as a manufacturing center, and in January, 1817, an account of the manufactures of the city was taken by order of the Councils, by which it was ascertained there were 248 factories of various descriptions, employing 1,280 hands, and producing goods to the value of \$1,896,366, and there were 111 other industries, entitled trades, employing 357 hands and producing goods to the amount of \$700,003.

In the same year Morris Brikbecker, in his notes on a *Journey in America*, writes of Pittsburgh, "Here I expected to have been enveloped in clouds of smoke, issuing from a thousand furnaces, and stunned with the din of a thousand hammers. I confess I was much disappointed by Pittsburgh. A century and a half ago perhaps, Birmingham might have admitted a comparison with Pittsburgh.

" Yet taken as it is, with rhetorical description, it is truly a very interesting and important place. Establishments which are likely to expand and multiply as the small acorn, planted in a good soil and duly protected, is to become the majestic oak that 'flings his giant arms amid the sky.' At present the manufacturers are under great difficulties and many are on the eve of suspending their operations, owing to the influx of depreciated fabrics from Europe." Mr. Brikbecker, judging from this paragraph, was and would have been to day a full fledged "Tariff man."

It is also evident from his remarks, that free trade was then, as it is to day, a hindrance and positive injury to the industries of Pittsburgh. Mr. Brikbecker seems to have been shocked at the spendthrift habits of the workmen, and writes, "Journeymen in various branches, shoemakers, tailors, &c., earn \$2 a day. Many of them improvident, and thus they remain journeymen all their days. It is not, however, in absolute intemperance and profligacy that they, in general, waste their surplus earnings, it is in excursions and entertainments. Ten dollars spent at a ball is no rare result of the gallantry of a Pittsburgh journeyman."

Mr. Brikbecker writes further, "This evening I heard delightful music from a piano made in this town, where a few years ago stood a fort from which a white man durst not pass without a military guard on account of the Indians, who were then the hostile lords of this region."

The fact that pianos were at that date manufactured at Pittsburgh might be doubted, especially as the enumeration made by order of the councils make no mention of such a factory. From an advertisement in the *Pittsburgh Gazette*, in 1814, it appears that one Charles Rosenbaum had established himself as a maker of pianos, and offers those instruments at from \$250 to \$350 each, and also to contract for the building of grand pianos for those who desire them, on such terms as may be agreed on.

In this year, 1817, the building of a theatre was agitated, and it was erected and completed during the succeeding twelve months. Pittsburgh had not, however, been without dramatic amusements. The advertisements in the *Gazette* previous to that show that strolling companies from time to time gave musical, dramatic and other similar entertainments, the old Black Bear tavern, in the north east corner of the Diamond, being where these entertainments were most frequently held.

The boards of the theatre of 1817 were trodden by citizens of Pittsburgh distinguished then and famous in latter days, among whom were Richard Biddle, Morgan M. Murray, Matthew Magee, Morgan Neville, Charles Shaler, James B. Butler, Alexander Breckenridge, Sidney Mountain, William Wilkins, J. S. Craft and George Beale. The persons just mentioned were members of a Thespian society, whose object was to create a fund for the relief of the suffering poor. The distribution of the funds thus raised was managed in so anonymous a manner that the recipients were uninformed of the source from whence it came. This organization was succeeded by a second Thespian society, many of the members of which were students of the Western University. This society continued for about six months, when it was suddenly brought to a close by the faculty of the University. The lot upon which this first temple of the drama was built is the Third street end of the lot occupied by the Dollar Savings Bank. It is the westerly half of a lot marked 310 in the general plan of the city, which was conveyed to Robert Smith by the Penns in September, 1790. The building was demolished in 1828 by Henry Holdship, who at that time purchased it.

In 1817 the city began to feel the effects of the reaction of the inflation of the war of 1812-14. During that period the city had enjoyed much prosperity, owing to the business created by its ability to furnish munitions of war and the collateral trade incident thereto.

At all times, whenever the nation has engaged in war, Pittsburgh has been a center for the supply and manufacture of munitions; and it is singular that a point so secure from attack, so central in position, so full of resources to furnish both naval and military armaments, and from which they could be so easily distributed to all quarters of the nation, has been neglected by the government as

the site of a National Arsenal. To some extent this seems to have been considered in the erection of what is now known as the Allegheny Arsenal, in 1813-14, which was completed in April, 1814. The site of this arsenal was selected by Colonel Woolsey and W. B. Foster, Esq., the father of Stephen C. Foster, the eminent composer of songs and music, and of Hon. Morrison Foster, the Chairman of the Committee on celebrating the Centennial of Allegheny County.

In 1818, on March 3d, an Act was passed by the Legislature of Pennsylvania providing for the erection of a State's prison in Allegheny County. Messrs. James Ross, Walter Lowrie, David Evans, William Wilkins and Dr. George Stevenson were appointed Commissioners to select a site. The town of Allegheny donated the plot where the Western Penitentiary was built, at what is now the corner of Sherman avenue and the present Allegheny City Park. This building was completed in 1826, and the first prisoner received July 22d of that year. Up to 1823 the city and, of course, the whole county, was nearly at a standstill from the disastrous reaction of the war of 1812-14. In 1817 many factories stopped for want of business, and there was a continual downward tendency in business and the value of property. In 1821 the distress reached its height; manufactures, trade and industry were all prostrated. In May of that year flour was only one dollar per barrel, boards two dollars a thousand feet, whisky fifteen cents a gallon, sheep and calves one dollar a head. It required a bushel and a half of wheat to buy one pound of coffee, and twelve barrels of flour to purchase a yard of superfine broadcloth. From this it will be seen that all agricultural products were of comparatively little value, while imported goods were dear. It was an exemplification of free trade effects under the result of peculiar local causes. The manufactories being closed, or nearly so, labor was without the means to purchase freely, and in consequence the prices of agricultural products declined to the extreme low rates quoted, while foreign products were dear from the prices that had to be paid for them in the depreciated values of home products.

Singularly, during this period of depression two newspapers were started, *The Commonwealth* and the *Pittsburgh Weekly Recorder*.

It was a period that would seem to offer but little encouragement to such enterprises, and affords a striking illustration of the hopefulness of those who catch the editorial and publishing fever, which has under similar circumstances carried, at times, newspapers to success, yet made wrecks of so many others.

It was during this period of depression, in 1822, that the Western University of Pennsylvania began its work as a college, and is the *alma mater* of many of Allegheny County's most distinguished citizens in the liberal professions as well as in its manufacturing and commercial pursuits. There is in connection with this and other enterprises undertaken during this period of depression a marked trait of the people of Allegheny County that runs through all the vicissitudes of its progress from the earliest days. The persistence with which, when they have once undertaken an enterprise, they adhere to its fortunes, and ultimately achieve its success.

Always slow to embark in new enterprises, once engaged they are loyal to their matured convictions. Founded among the hazardous days of the French and Indian wars, and largely populated by the Scotch-Irish, in which the Covenanter element of Scotland was largely represented, the strong religious convictions of that faith, and the frugal, conservative habits have left so deep an impress on the succeeding generations that conservatism, self-reliance and the courage of their convictions is still a characteristic of the men of Allegheny County of to-day. What the Puritan was to New England in that section, the Scotch-Irish have been to Western Pennsylvania.

Allegheny County, possessing resources that are and always have been remarkable, even in the strongest sense of the word, might, perhaps, with a more sanguine and impulsive population, have made more rapid progress, but while its advance in all things has been slow, it has never taken a step backward, and has, as the history of its local manufactures and its national movements show, still been in the forefront of progress, and stands to-day in the eyes of the world as the most marked county of the United States. From its small acorn seed the oak grows slowly, but it grows solidly, and lasts its thousand years, while more quickly maturing woods decay. Allegheny County is a grand oak in the many that in the growth of the Nation have come into political and commercial existence.

In 1825 the city began to acquire fresh energy, and manufacturing, which has always been the motive force of Allegheny County, began to thrive once more. As of those industries in all its various commercial enterprises are, in this epitome of Allegheny County's Hundred Years, more satisfactorily portrayed to those interested in special chapters devoted to the respective classes of its business enterprises than if scattered in chronological detail through the compendium of its general history, the further recording of which is more closely confined to the leading events in the county's progress.

1824 is also an important date in Allegheny County's history, marking the first national movement in the construction of the Pennsylvania canal, so long an important factor in the transportation facilities of Allegheny County. The movement in New York State to connect its tide waters with Lake Erie having awakened an emulative feeling in Pennsylvania, revived the idea that as early as 1762 existed, when it was proposed to connect the waters of the Ohio and Lake Erie with the Delaware. As it was supposed that this would require a greater amount of capital than could be obtained through a joint stock company, a successful effort was made to enlist the State in the enterprise.

On the 27th of April, 1824, an Act was passed appointing three commissioners to examine the various routes for the proposed canal. On the 11th of April, 1825, five commissioners were authorized by an Act of Legislature to examine routes for a canal. These commissioners appointed by the Governor were William Darlington, John Sargent, Robert Parkinson, David Scott and Abner Lacock. The report of this board was favorable, and on the 25th of February, 1826, an Act authorizing the construction of the canal was passed.

In 1825 the Western Theological Seminary of the Presbyterian Church was formed and established in 1827 in Allegheny City. A full account of this is given by Judge Parke in his "Recollections of Seventy Years," published in 1886.

In 1828, by an Act of the General Assembly of Pennsylvania, "on April 14th," the town of Allegheny was chartered as a borough, and in 1829, John Irwin, who was a son of Colonel John Irwin of the Revolutionary army, was chosen its first burgess, which office he held until 1834, when he was succeeded by Hugh Davis, and he in 1838 by John Morrison, who held office until 1840, when the borough became a city.

John Irwin was born in the borough of Pittsburgh, July 1st, 1787, and became a rope manufacturer when he attained the years of manhood, having acquired a knowledge of the business when a mere lad, under the teachings of his father who carried on the business under the style of "John Irwin and Wife." They were the successors of the firm who established the first rope walk in Pittsburgh, which Judge Park says in his *Reminiscences* was in 1794, was on the present site of the Monongahela House. The works were, in 1795, according to Judge Park, removed to the square bounded by Liberty, Third and Fourth streets, and Redoubt alley, and subsequently removed to the beach of the Allegheny river, between Marbury street and the point, where the entire rigging of Perry's fleet was prepared. In 1813, the erection of the rope walk on a more extensive scale was begun in Allegheny town. Mr. Irwin died on June 30th, 1863, at his residence, Sewickley, Pa., in his 76th year. He was tendered many places of political preferment but firmly declined such distinctions. He was, for a number of years before his death, a director of the Bank of Pittsburgh, his reputation as a business man ranking high in the community, being remarkable for his strict integrity.

His father, Colonel John Irwin, died May 5th, 1808, in the fiftieth year of his age, and his remains were interred in the First Presbyterian burying ground with military and Masonic honors.

The decade from 1830 to 1840, is filled with local historical dates pertaining to the continued growth of the county and its industries. While as an exhibit of the individual enterprise, this data is illustrative of the business energy that was accreting, it is not strictly public movements, only so far as they are indications of the increasing importance of the county in the development of the west.

To mention a few of the individuals or enterprises in general history would be invidious where all were on the same plane of action equally deserving. To give all in detail would be cumbersome. Such data finds more fitting presentation in the statistical exhibits made of the progress of the various branches of the county's industries.

Pittsburgh had at this time acquired the title of the Iron City and a population, in 1840, of 38,931. Some of the more prominent minor public events are here noted as of interest to the local readers.

In this decade, on July 15th, 1831, the Duquesne Greys were organized by the election of Major Rufus L. Baker U. S. A., then in command of the Allegheny

Arsenal. This military organization, having prominence in after events of the county, calls for the record of its formation as an historical datum. On the 4th of May an Act of Assembly was signed by Gov. Wolf, creating the "Infantry Corps of the Duquesne Greys" as an independent volunteer company. On July 2nd, they made a march from Pittsburgh to Greensburg, and on October 12th made their first public review parade. On October 10th, 1834, they were under arms for the preservation of the peace of the city, the occasion being the first actual service of the Greys. Major Baker was succeeded in the command of this company by Jonas R. McClintock, in 1833. He by John Birmingham, in 1835. He by Capt. George Hays, afterwards Col. of Eighth Penna. Reserves, 1836 and he, in 1837, by John Herron, son of Rev. Francis Herron, pastor of the First Presbyterian church. While under the command of Capt. Herron the Greys volunteered for the Mexican war.

The year 1832, is notable as the date when, perhaps, the first public protest was made against slavery in Allegheny county. On the evening of January 16th, 1832, the colored citizens of Pittsburgh assembled in the African church, organized as a society and adopted a preamble and constitution in which they declared that "ignorance is the sole cause of the present state of bondage of the people of color in these United States, and for the purpose of dispersing the moral gloom that has so long hung around us have, under Almighty God, associated ourselves together—which association shall be known as the Pittsburgh African Education Society."

To the constitution adopted are signed the names of John B. Vashon, President, Job. B. Thompson, Vice President, Lewis Woodson, Secretary, Abraham D. Lewis, Treasurer, Richard Bryans, William J. Greenly, Samuel Bruce, Moses Howard, Samuel Clingham, Board of Managers.

That ultimately the enormity of the national crime of slavery would have brought about the same results, there can be no question. It was so utterly foreign to the Constitution, and so repugnant to all reflecting minds, that its continued existence under the progress of civilization in the United States was impossible.

That the public protest of the colored men of Allegheny at a time, so long before the abolition of slavery, was not without its influence in shaping subsequent events, admits of no question, considered in the philosophy of cause and effect, and the many instances in the history of men and nations, of remote primary causes leading up to great public reforms. The foregoing action of the colored people of the county is, therefore, interesting historically in view of the prominent part Allegheny county, a few years after this, took in the abolition of slavery, and as the birth place of the Republican party.

On the 1st of October, 1832, the cholera broke out in Pittsburgh, having been brought to the city by a colored man from Cincinnati. Some twenty persons died of it, chiefly colored citizens. A few years later Pittsburgh experienced a much more severe visitation of the disease.

1832 also witnessed the foundation, through the efforts of the women, of one of the noble charities of the county, in the organization of the Pittsburgh and

Allegheny Orphan Asylum. A preliminary organization was effected at a meeting held in the First Presbyterian church on April 17th, 1832, at which William Robinson, Jr., presided. An Act was passed by the Legislature and approved March 20th, 1834. In this Act there were appointed as managers, Elizabeth F. Denny, Mary Robinson, Elizabeth Tiernan, Marion Young, Margaret Bruce, Elizabeth P. Halsey, Susan K. Wade, Anna Halsey, Mary B. Holmes, Mary Wilkins, Margaret George, Hannah Higby, Mary A. S. Baird, and Isabella Simpson. The work of the institution was begun with three inmates in a small house on the bank of the Ohio in Allegheny town.

In 1832, was also laid out the town of Manchester by John Sampson, C. L. Armstrong, Thos. Barlow, Thos. Hazelton, and Samuel Hall. In 1867 it was annexed to the city of Allegheny, becoming the fifth and sixth wards of that municipality.

The year of 1832 is also memorable in the history of the county, as the year of the great flood, when the waters of the Allegheny rose to the height of 35 feet, the water extending up Wood street as far as Second, and being from five to six feet deep in the basement of the Exchange Hotel at the corner of Penn avenue and St. Clair (now Sixth) street. In Allegheny town, all below what was called the second bank was covered with water from six to twelve feet deep.

In 1835, the first public school in Pittsburgh was opened in an old building on the corner of what was then Irwin street (now Seventh) and Duquesne Way, where the Robinson House now stands. George F. Gilmore, afterwards a member of the Bar of Allegheny County, was principal. The school opened with an enrollment of five scholars.

On the 8th of April, 1835, the ordinance was passed by councils to erect the first gas works of the city.

In 1837, the city of Pittsburgh and the borough of Birmingham and adjoining suburbs, issued scrips, or "shin plasters" as they were called in the slang parlance of the day. An ordinance was passed by the city of Pittsburgh, directing the Mayor, Jonas R. McClintock, to sign them, which he refused to do.

These few occurrences of purely local interest in the decade of 1830 to 1840, are sufficient to furnish a glimpse of the local history of that period. In 1840, the borough of Allegheny was, by Act of Legislature, on the 13th of April, constituted a body politic, under the name and style of the Mayor, Aldermen and citizens of Allegheny. By the Act an election for municipal officers was ordered, and held on the 13th of April, 1840. The election resulted in the choice of Gen. William Robinson, Jr., as Mayor. Gen. Robinson's parentage, birth, and the honorable positions he held, are mentioned on a previous page.

CHAPTER V.

From 1845 to 1860.

In 1845 a great calamity came upon the City of Pittsburgh. As the clocks of the city indicated the hour of noon, a fire broke out at the corner of Second and Ferry streets, igniting by some shavings under a wash-kettle in the yard of a dwelling. The weather had been very dry and warm for the season for some weeks previous. The writer witnessed much of the conflagration from its beginning to its close, and can only describe it as a fearful sight. The fire did not progress from block to block, but great masses of flame were held up by the force of the wind and arched over the intervening blocks, and thereby the center of a square was ignited before the houses on either side of a street became even scorched. Huge flakes of burning boards were carried far in advance of the fire, and applied a torch, as it were, to houses squares away. The Third Presbyterian Church, in the rear of which the fire originated, was saved by the great exertions of the Niagara Fire Engine Company. This, as the wind was then blowing from the south, was most fortunate, as once through that barrier it is most probable that the section of the city which escaped would also have fallen a prey to the flames. The rapidity with which the fire swept up the course of the Monongahela river towards the south cannot be described. It seemed as though the entire section of the city burned was on fire within an hour after the conflagration began. The entire fire force of the two cities was of no use to stay its ravages in the direction in which the wind drove the flames, and it was not until there was no fuel to feed upon that the fire ceased. The heat was intense, and all things, glass, brick, stone, and even iron, absolutely melted beneath its power. In the large iron and glass warehouses on Water street no effort was made to save their contents, and after the fire had ceased and the embers cooled down great masses of window glass and table ware and iron were piled amid the ruins of the warehouses, melted into compact masses. In several cases these, especially where of iron, were, when the warehouses were rebuilt, tumbled into pits excavated beneath them in the cellars, where many of them remain to the present day. The solidity into which the heat of the flames had welded bar iron and nails defied any effort to segregate them by chisel or blast, and their massiveness prevented their removal in a body. In the swiftness with which the fire spread, the confusion and panic that prevailed, it is most wonderful that but two lives were lost. One of these was that of Samuel Kingston, a prominent member of the bar, who, re-entering his house to save a valuable paper left behind, fell a victim to the flames. The other was a Mrs. Brooks. The fire swept over the most wealthy and business part of the city, and desolated a space of nearly sixty acres. The conflagration spread southwest and eastward in the shape of an open fan, the handle being at its point of beginning, Second and Ferry streets, and when it ceased its rim was at what was then called Pipetown, beyond where the Pittsburgh, St. Louis & Chicago Railroad pas-

Second avenue. Its sides were the Monongahela river and Fourth avenue, until it reached Wood street, then from Diamond street straight out to Ross. There were over one thousand dwellings, warehouses, stores, churches, hotels and public buildings burned, and the loss has been variously computed, but was generally estimated between eight and ten million dollars. Warm hearts and liberal hands hastened to relieve the suffering and distress, and from every quarter of the United States, and from Europe, money, provisions, clothing and household articles came pouring in, and Pittsburgh has never forgotten that generous action, and fails not, when other communities are in need from calamities, to do as they were done by.

In 1846, at the outbreak of the Mexican war, Allegheny's patriotism responded to the call for volunteers, and Pittsburgh became again a camp and supply point, as well as a rendezvous for troops from other sections ordered to embark for Mexico via New Orleans at this point. At no time has the great military value of the Ohio been more clearly shown than during war periods in the facility it gave for the transportation of troops and all necessary articles for either sustenance of an army or their aggressive munitions of war. To be a transportation power always available in case of need, it should at all times have no less than six feet of water within its banks. Viewed only as a military improvement, not to consider its commercial importance, it seems singular that the government does not enter upon the permanent improvement of the navigation of the river to accomplish that result. Peace may always dwell within our borders, and foreign powers be friendly, but if it is well to build war ships, construct forts and maintain a military organization, is it not well to make as available as possible, for military reasons, a military facility such as the Ohio river has always been in times of war?

The Pittsburgh military organizations which responded to the call for troops by the President for service in Mexico were the Duquesne Greys, Captain John Herron; the Pittsburgh Blues, Captain Alexander Hays; and the Irish Greens, Captain Robert Porter; also Company C, Captain —— Sample. A fourth company was recruited by Captain George Hays, a former captain of the Duquesne Greys, who during the civil war became colonel of the Eighth Pennsylvania Reserves.

There was much rivalry between Captain Porter and Captain Hays as to which should first fill the ranks of their several companies, for as but three companies could be accepted from Allegheny County, and the two companies of the Greys and Blues being full at the time of the call, it was a question of expeditious recruiting as to which one of the other two should first fill their quota. The Greens succeeded, and Captain George Hays and his comrades were disappointed in taking part in the Mexican campaign. There also were in the same regiment recruited into the several companies of which it was composed a number of Pittsburghers, there being nineteen in Company D, three in Company G, eleven in Company B, thirteen in Company L, sixteen in Company M, and one in Company F.

These Pittsburgh companies embarked with others who came from Philadelphia and other points from Pittsburgh on December 25th, 1846, the Greys on the steamer New England. The Pittsburgh troops landed at New Orleans on January 1st, 1847, and on the 14th re-embarked on the ship Oxnard, and landed near Vera Cruz on March 9th. The Greys took an active part in the seige of that place, and in the battle of Cero Gerdo, April 19th, were engaged. On the 22d of the same month the Greys occupied the castle of Perote Puebla, which they garrisoned with three other companies under the command of Colonel Samuel W. Black. This gallant soldier, for many years a prominent member of the Pittsburgh Bar, and in 1861 the Governor of Nebraska, lost his life in the battle of Gains Hill in the war of the rebellion.

Brave, talented and impetuous, the following extract of a speech made by him in 1861, in welcoming his successor to the Governorship of Nebraska, is characteristic of the man: "On to-morrow," he said, "I shall start for Pennsylvania, to stand there as here, very close to the flag she follows. I think I shall recognize it as the same that has always waved over her battalions. It is a goodly flag to follow, and carries a daily beauty in its folds that makes all others ugly."

The siege of Puebla continued for some weeks, during which the following members of the Greys were killed: John Gilchrist, John H. Herron, Francis B. Johns, H. Kreutzleman, William A. Phillips, James Phillips, Samuel Sewell, William Schmidt, Samuel Troger, David Vernay, Francis VanDyke, Joseph Wilson.

In the decade from 1850 to 1860 the population of Allegheny County increased from 138,200 in 1850 to 178,831 in 1860. Much of this increase was added to the population of the cities of Pittsburgh and Allegheny, and the boroughs of McKeesport, Braddock and Tarentum began to assume great importance as manufacturing suburbs of the two cities.

Despite various causes tending to local depression in business, the county's history is marked with the inception of various business enterprises and projects of no interest beyond mere local benefits. The importance to Allegheny County of railroad connection with the west and the east had, previous to the beginning of this decade, been much agitated, and the Ohio & Pennsylvania and the Pennsylvania Railroad in 1850-52 inaugurated what may be styled the railroad era of Allegheny County. It is also marked by several serious riots arising from labor troubles, noted in the chapters touching the progressive history of the various industries. A serious local monetary panic likewise left its impress on the progress of the county and its financial wrecks.

In all important elements of the county's growth and development, it continued, however, to increase in importance as a commercial and manufacturing center. The great natural resources upon which its business was based were too powerful to be restrained in their force, and the business persistency and courage of its population too elastic to be broken. The city had been so fully rebuilt in the great district devastated by the fire of '45 that few vestiges of it were in 1850 to

be seen. The banking capital of the cities increased, and many important manufactures were added to its productive forces. The county, in this decade, made no step backward, but moved forward in all its general essential interests.

Among the comparatively minor events not touched upon in special chapters of this volume was the dedication of Masonic Hall in 1851; the burning of St. Paul's Roman Catholic Cathedral on May 6th of that year, and the laying of the corner stone of Dixmont Hospital on July 19th, 1859; the robbery of the Custom-house of ten thousand dollars, one of the officials on his way home being gagged and the keys of the safe being taken from him, on the 18th of March, 1854; the dedication of the House of Refuge, and the reception of the first inmate, a boy of ten years of age, on December 15th, 1854; the erection of the Allegheny County Home in 1853, and the opening of the Central High School September 25th, 1855. Several churches were built during this decade, among which was the St. Mary's Catholic Church, the corner stone of which was laid April 12th, 1853; and on July 12th of the same year that of the Christ M. E. Church. In September of 1854 the cholera broke out a second time in Pittsburgh, and from September 25th to September 30th there died from the disease 249 citizens. While much excitement existed, there was no panic. The authorities and the medical profession battled with the disease bravely. A memorable feature of the preventive methods against its spread was the burning of huge piles of bituminous coal in nearly all the principal streets, under the impression that the sulphur and carbonic gas thus set free to mix with the atmosphere would destroy the germs of the plague in the air.

Two important political conventions were held in this county during this decade. The first was the National Free Soil convention, held in Masonic Hall, August 10th, 11th and 12th, of which Henry Wilson, of Massachusetts, was permanent president, and by which John P. Hale, of New Hampshire, was, on August 12th, nominated for President of the United States, and George W. Julian, of Indiana, for Vice President.

On February 22d, 1856, a national convention to form a party to resist further extension of slavery, at which were many of the most prominent public men of the nation, was held in Lafayette Hall and formally organized the Republican party. The history of the political party then created is that of three of the most momentous decades in the political existence of the nation, and Allegheny County did not only much to prepare the way for its formation, but has ever been loyal to principles thus announced. On January 26th, of 1857, a public meeting was held to raise funds to purchase coal for the suffering poor of Cincinnati. Owing to prolonged droughts, the Ohio river through the fall of 1856, had been so low that the usual shipments of coal to the lower river ports could not be made, and consequently a coal famine at Cincinnati ensued. Several thousand dollars were contributed by the people of Allegheny County, and a large amount of coal sent by rail to the authorities of Cincinnati for free distribution among the poor of that city.

This brief notation of a few of the minor local occurrences in Allegheny County from 1850 to 1860, gives a glimpse of the social, commercial, and political activity and atmosphere of the county during that decade. The city of Pittsburgh, but just recovered from the effects of "the great fire" and the loss thereby of from \$8,000,000 to \$10,000,000; struggling with the depressing effects of labor strikes and riots; embarrassed with the financial and commercial difficulties of a monetary panic; battling with a fearful plague; one of its great sources of business income cut off by the closing of its river facility by low water, presents a combination of circumstances that might well have checked the progress of any county, and required courage and persistency to meet, worthy of admiration. Under it all the manufacturing establishments of the county increased as did the number of its banks, the people pushed forward their railroad enterprises, founded hospitals and reformatory institutions, built churches, helped found the most important political party ever existing in the nation, and, amid it all, found time, had the heart to feel for, the money to care for the suffering poor of a rival city. It is a grand picture of a self-reliant, industrious population, a striking section in the panorama of the history of Allegheny County.

CHAPTER VI:

From 1860 to 1865.

In the few days before the close of 1860, occurred one of the most memorable events in the history of Allegheny County.

A few days previous to the 26th of December, 1860, an order came from Floyd the Secretary of War, to ship on that day one hundred and fifty pieces of cannon, lying at the Allegheny Arsenal, to New Orleans, under pretext that they were wanted for mounting on Ship Island, in the Gulf of Mexico, on which some fortifications had been begun. The intelligence of this order having gotten abroad, spread rapidly among the people. The *Dispatch* of December 25, commenting upon this news says:

"Will our people submit to this? Our citizens of all parties as a unit denounce the movement, and prominent democrats, leading Breckinridge men, have telegraphed to Washington to have the order revoked. * * * * * The people of Allegheny county should see that the cannon purchased by the national treasure are not conveyed to the far South, and they need not barricade Penn and Liberty streets to prevent it. Let them decide that no cannon shall be shipped till *Charleston Arsenal is in possession of the Federal Government and Fort Moultrie reinforced, AND NONE WILL BE.*"

The italics and capitals are as originally printed in the article, which concludes with the following significant paragraph :

"Arrangements were making on Monday to have some of these guns taken to the wharf. We suppose some one will tap the fire bells on the route on their making their appearance on Penn and Liberty streets, that our people may witness their removal."

Another article in the same paper concludes with, "Our people are a unit that not a gun shall be shipped South." These extracts reflect the intense feeling that prevailed in the community. The commander of the "Silver Wave," on which steamboat the guns were to be shipped, was notified that if he took the cannon on board his vessel she would never pass the limits of the harbor, but would be sunk. The "Silver Wave" is further a historic boat, as it was the first steamer to run the blockade at Vicksburg, under command of Captain John S. McMillan. Steps were taken to have some pieces of cannon mounted opposite Brunot's island on the Allegheny side to effect that purpose as the boat should pass. The commander of the arsenal was called upon by a committee and requested to desist from obeying the order, on the ground that it had its origin under circumstances which contemplated treasonable results. The officer in charge of the arsenal could only suggest that a rescinding of the order be obtained from Washington. In the mean time an informal meeting had been held on the afternoon of the 25th at the Mayor's office, to take action in the matter. The tone of this meeting is presented in the following extract which we quote from the *Dispatch* of the 26th.

"While there is a very decided opposition to any interference with the transportation of the guns to the river, until after we have heard from Washington, and all remonstrance fails, it was equally as decided against allowing their removal from the city should the orders from Washington not be countermanded." Another article says: "The proposed removal of cannon from the arsenal was the all absorbing topic of conversation (*that day*); and judging from the feeling, almost universally expressed, we do not doubt that the officers in command will meet with a determined resistance should they attempt to execute the order of the Secretary of War."

Edwin M. Stanton had at this time become, as Attorney General, a member of Buchanan's cabinet, and to him a committee of citizens applied to obtain a countermanding of the order. A dispatch was also sent to the President from influential citizens, stating: "They would not be responsible for the consequences if the order was not countermanded."

A public meeting was called for Thursday, the 30th, to take action in the matter, and hear the report of the committees which had been appointed at the previous meetings. It was while this meeting was in session that a detachment of troops, in charge of a number of guns, moved from the Arsenal to transport them to the wharf for shipment on the "Silver Wave." Secretary Stanton had replied that there was no knowledge of the order at the department; but no reply had yet been received from the government to the telegraph of the committee. A telegram had just been read to the meeting, announcing that Colonel Anderson had withdrawn from Fort Moultrie to Fort Sumter, when the guns and their escort reached Liberty street, near Wood. The excitement became intense, and most

determined expressions of intention to stop the further progress of the guns were made.

The position was one of great moment. There was no doubt that the order of Floyd to ship the guns was given with the intention of having this large amount of ordnance pass into the hands of the rebels. To allow the guns to be shipped was to furnish the avowed enemies of the Union with a valuable supply of artillery. As yet, it was construed, no overt act had been committed by the South. To have, by force of arms, resisted a government officer in the carrying out of the order of the Secretary of War was, under the circumstances, to organize armed resistance to the Federal government. Although no proclamation on the part of the government declared that the South was in rebellion, yet all acts of the Southern States were so plainly evidences of preconcerted rebellion that the public mind failed to draw the nice distinctions of law, and looked upon the well avowed intention as the fact. Presuming rebellion already existed from the hostile position and acts of the South, it seemed incredible that the government should be shipping cannon where they would be used against it, unless the government was already part of the threatened rebellion of the South against the North. If it were, it was clear the guns must not leave the city. If it were not, it was, beyond doubt, that treasonable motives were concealed in the order, which it was equally the duty of loyal citizens to apprehend. Yet, to stop the shipping of the guns was to be guilty of actual resistance by loyal people to a government loyal to them, which the people were even then preparing to sustain with life and treasure. It was an hour of great and painful uncertainty, calling for coolness and moderation. It can well be imagined how anxiously those who saw a duty on either hand, yet appreciated the difficulties of the position, counted the hours until such advice could be received from Washington as would decide the course to be taken.

Through the exertions of influential citizens the troops were halted on Wood street, so that time might be gained in which to obtain the communication so much hoped for from the government.

The line of guns and their escort extended from Virgin alley to Diamond alley, Fifth avenue being in the center, at the upper end of which, less than nine hundred feet distant, around the Court House, were gathered excited masses determined the cannon should not leave the city, but restrained from actual movement by the red tape of speeches, committees on resolutions, and like delays. The situation was not unlike that previous to the throwing overboard of the tea in Boston harbor, at the outbreak of the revolution. There the citizens had, on the evening of the day on which the event occurred, gathered at Faneuil hall to await the answer of the English Governor to a committee, who had gone to request that the vessels holding the tea might have a re-clearance and be allowed to sail without landing their cargoes. Pending the return of the committee, the meeting was addressed by the speakers present,—when a message from the committee was received, saying that the Governor had refused to allow the ships to

clear, Samuel Adams arose and said, "all has now been done that can be to preserve the peace," upon which the Indian war whoop was raised, and the famous body of Mohawks issuing from the hall, proceeding to the ships and began throwing over the tea. Here, at Pittsburgh, the message had gone to Washington, requesting the rescinding of the order shipping the cannon. Awaiting the reply the citizens were gathered in public meeting, and their speakers—by addresses—were holding the people. Two squares distant the cannon, under guard of U. S. soldiers, were halted until that reply could be had. The situation was quite twin with that of Faneuil hall. Happily, Edwin M. Stanton was the loyal, decided, prompt man he ever proved in all the country's emergencies, and such assurances came from him as enabled the committee to so report as allayed the excitement of the people, although the order countermanding the shipment of the cannon did not arrive for three or four days.

Those who had comprehended the danger and embarrassment of the position drew a longer breath as the meeting quietly dispersed. The troops conveyed the cannon then in charge to the wharf; no more were hauled, and in a few days Floyd's order was countermanded. What would have been the result had not the order been revoked it is not necessary even to conjecture; but the day, and the hour, will not easily be forgotten by those who were active in procuring such action as prevented a collision between the government troops and a loyal people, determined to prevent, even at the risk apparent, a suicidal action on the part of the government.

It was the first decided action anywhere in the country against the rebellion. It was the first decided expression of the loyal North. The movement was in the hands of men fully as patriotic and determined as Adams and his co-adjutors, and the public feeling, while awaiting the countermanding of the order, was quite as intense as that which pervaded Fanueil hall. It will also not fail to be seen how the same desire to do all that "could be done to preserve the peace," pervaded the action taken, and the same determination to do that which was a clear point of principle and duty, in event of a refusal to accede to their requests. The similarity of the situations is strongly apparent.

The course of the citizens of Allegheny County from that time forward until the surrender of the Confederate government was in keeping with the foregoing action. From the time of the stopping of the shipment of the cannon until the firing on Sumter the patriotic sentiment of the county was fully aroused and decided in its loyalty to the Union. There were some, however, who inclined strongly towards the Southern sentiment, influenced thereto by partisan regard for the Southern State rights interpretation of the Constitution, regardless of the superior rights and importance of the Union. This necessarily engendered much bitter personal feeling as to individuals for a time, and was carried to such extremes in the first few months of the Rebellion that one day, after the firing on Sumter, the public were electrified to see, in the gray of the morning, ropes with nooses attached fastened to lamp-posts on several of the principal streets of the

City of Pittsburgh, evidently intended as a warning to those whose sympathies were with the Rebellion. This action was, however, always understood to be the hasty action of a few individuals, and neither originated or prompted by any of the committees of the day.

It has grown of late years that men are chary of using the term Rebellion in speaking of the civil war, but if it was so then, it is none the less, historically, so now, and in giving Allegheny County's history during that period it is proper to consider it just as the mass of citizens of the county regarded it then, otherwise the record would not be historic, for history should not only give the acts, but the prevailing opinions which caused the action of the time.

While the people of Allegheny County regarded the attempt of the Southern States to secede from the Union as rebellion, they sympathized with the people of those States as individuals, in the suffering into which they were plunged by the sophistries and ambitions of their leaders. They had but one feeling, however, toward the act of secession itself. They regarded it as a political crime of great magnitude, inasmuch as it not only contemplated the dissolution of the Union, but intended as a means to perpetuate the great national sin of slavery. In the light of subsequent events, there is no question as to the violation of the spirit of the Bill of Rights and the meaning of the Declaration of Independence in the continuation of the individual bondage in which the African race was held, and the outrages enacted on humanity through its existence.

For many years before the sentiment of Allegheny County had been opposed to the sin, and when for its continuance the crime of dissolving the Union was to be resorted to, the voice of the people could have but one expression, to be loyal to their own convictions.

It was not, however, toward the individual citizens of the Southern States that their indignation was aroused, but against the political crime in itself and those who, to further their own ambitions, led the masses into the miseries of the war. However kindly they felt toward the people of the South in their individualities, or deplored the breaking of personal friendships or business relations, they were too decided in their loyalty toward the Union, too clear in their convictions as to the political crime the Southern leaders contemplated, to have any hesitation as to their duty to the Federal government, without regard to any previous party affiliations. This representation of the sentiment of the people of Allegheny County at that time is not drawn from a review of the occurrences of that day, but is an expression of one who, from position, was well informed of nearly all, and probably all, the public and private movements in Allegheny County during the civil war, and, consequently, cognizant of the general public sentiment of the day.

While the public mind was in that intense anxiety subsequent to the stopping of the cannon, the news of the firing on Fort Sumter was received at Pittsburgh, on Monday, April 15th, 1861.

An immense mass meeting was held at City Hall, at which the following resolutions, prepared by John W. Ridell, City Solicitor, were read by Thomas J. Bigham.

Whereas, The national government is now seriously menaced by traitors in arms, who have defied its just authority, raised the standard of revolt, and by hostile acts of war disturbed the public tranquility, and endangered the public peace; and

Whereas, In an exigency like the present it is the duty of all loyal and patriotic American citizens, casting aside the trammels of party, to aid the constituted authorities in maintaining inviolate the supremacy of the constitution and the laws, therefore

Resolved, By the people of Allegheny County in general mass meeting assembled, that we deem the present a fit occasion to renew our obligations of undying fealty to that government and that union which we have been taught to regard and revere as the palladium of our liberties at home and our honor abroad; and in their defence and support, by whomsoever assailed, we will endeavor to prove ourselves worthy sons of patriotic sires.

Resolved, That we specially approve of the course of the Legislature and executive branches of our State government, in promptly responding to the call of the President of the United States for men and means to sustain and protect the National Government at this crisis in its history, and that Allegheny County will contribute her full quota of both to vindicate its authority.

Resolved, That discarding all political or partisan considerations in this hour of our country's danger, we mutually pledge to each other as American citizens for the common defence, our lives, our fortunes, and our sacred honors.

Resolved, That a committee of one hundred citizens be appointed by the Chair as a Committee of Public Safety to see that the patriot cause receives no detriment in this region, and to convene the people whenever in their judgment such a step is necessary.

The Committee of Public Safety called for in the resolutions was appointed as follows:

William Wilkins, Chairman.	Russell Errett, J. H. Foster,	W. S. Lavelly, Wm. Caldwell,	E. P. Jones, P. C. Shannon,
Wm. J. Morrison, James P. Barr, Wm. F. Johnston, Dr. Geo. McCook, John Marshall, T. J. Bigham, Joseph Dilworth, Charles Barnes, David Fitzsimmons, C. L. Magee, John Harper, Andrew Miller, James Park, Jr., C. H. Paulson, Alexander Nimick, N. P. Fetterman, John D. Scully, Dr. Geo. S. Hays, Benjamin Coursin,	Charles McKnight, William Neeb, John D. Bailey, John W. Riddell, James A. Sewell, William M. Lyon, Thomas Bakewell, W. J. Howard, Sol. Schoyer, Jr., J. P. Pears, R. Miller, Jr., H. L. Ringwalt, George W. Wilson, James Reese, J. W. Barker, R. H. Patterson, W. K. Nimick, George Gallop, A. Nicholson,	Ed. Simpson, Dr. Jas. King, John J. Dravo, Jos. R. Hunter, W. M. Hersh, C. B. Bostwick, Nat. Holmes, Jr., Samuel Riddle, John Scott, Francis Sellers, D. S. Stewart, H. A. Weaver, R. H. Hartley, J. R. Murphy, Geo. W. Irwin, John M. Irwin, Wm. C. Barr, Jas. Floyd, Alex. Moore,	E. D. Gazzam, Geo. P. Hamilton, Thos. M. Marshall, J. R. T. Nobb, Henry McCullough, Jas. A. Hutchinson, Joshua Rhodes, James Verner, John N. Tiernan, Thomas S. Blair, Samuel McKelvy, John N. McClowry, G. L. B. Fetterman, Max. K. Moorhead, George W. Cass, Walter H. Lowrie, Dr. S. Dilworth, David Irwin, And. Burke,

ALLEGHENY COUNTY'S

John Mackin,	David F. McKee,	Samuel Rodgers,	Jas. R. Hartley,
A. G. Lloyd,	William Philips,	Alfred Slack,	W. G. McCartney,
John J. Muse,	William M. Edgar,	C. Zug,	John Atwell,
W. Bagaley,	Dr. L. Oldshue,	John Birmingham,	M. I. Stewart,
T. M. Howe,	Dr. Geo. L. McCook,	John Wright,	Robert B. Guthrie,
C. W. Ricketson,	Robert McElhern,	John McDonald,	Hugh McAfee,
Joseph Kaye,	Frederick Collier,	Wm. Barnhill, Jr.,	Hugh Kane,
J. B. Poor,	Thos. B. Hamilton,	William Owens,	Samuel Cameron,
T. S. Rowley,	Archibald McBride,	J. M. Brush,	R. J. Grace,
James Herdman,	Andrew Fulton,	Robert Morrow,	Joseph Woodwell,
Andrew Scott,	William Simpson,	J. M. Killen,	John McDevitt,
S. H. Keller,	Alexander Hilands,	C. McGee,	James B. Murray,
David E. Bayard,	George A. Berry,	Col. Leopold Sahl,	James McAuley,
J. R. McClintock,	William Carr,	Dr. Wm. M. Simcox,	John Graham,
James Kelly,	James Benny, Jr.,	Alexander Speer,	Wm. Holmes,
James Salsbury,	J. B. Canfield,	Henry Hays,	Daniel Negley,
William Martin,	H. L. Bollman,	Adams Getty,	William Woods,
Wm. Robinson, Jr.,	Wm. B. Holmes,	Edward Gregg,	Geo. H. Thurston,
William Bishop,	D. D. Bruce,	John Dunlap,	Edw. Campbell, Jr.,
Harry Wainwright,	Will A. Lare,	John C. Dunn,	Wm. H. Smith,
Wm. H. McGee,	Robert Finney,	John Brown,	A. W. Loomis,
T. J. Gallagher, ✓	Alex. L Russell,	John E. Parke,	William Wade,
Thomas Steel,	N. P. Sawyer,	B. F. Jones.	J. P. Penny.

A sub-committee was appointed, consisting of William Wilkins, Thos. Bakewell & Son, Thos. M. Howe, to prepare an address to the people of Western Pennsylvania. On the succeeding day the Committee of Public Safety met for organization, when Hon. Thos. M. Howe read the following address, which he stated, had been prepared by his colleague Thos. Bakewell :

"To THE CITIZENS OF WESTERN PENNSYLVANIA:

" Friends and Fellow Citizens :

" An unexpected emergency has arisen. That Constitution formed by the wisdom of our forefathers, that liberty established by their labors, that independence sealed and sanctioned by their life blood, are menaced, not by the hostility of foreign enemies, but by the reckless ambition of domestic traitors and aspiring demagogues, who have long partaken of the blessing of our free government, and enjoyed their full proportion of its emoluments and privileges. Their unhallowed passions have plunged our beloved country into the horrors of a civil war, and have in some measure exposed our homes, our families, and our firesides, to the desecration and ruin of hostile incursions. Under these alarming circumstances this committee has been organized, not to supersede the action of ordinary tribunals, not to interfere with the exercise of judicial power, but to aid the constituted authorities of our land in the preservation of the public peace, the protection and support of those whose natural defenders may be absent on the call of patriotic duty ; and if need be (which may God forbid), to report for judicial action all persons who, false to every dictate of duty and patriotism, may secretly contribute that aid and comfort to the enemy which they will not dare publicly to acknowledge.

"Diversified as may be our business avocations, our national predilection, our religious opinions, or our political sentiments on this momentous subject we address you, not as farmers or manufacturers, or merchants or lawyers; not as Irishmen, or Germans, as Englishmen, or Welshmen; not as Catholics or Protestants: not as Democrats or Republicans; but as citizens, as Americans and Pennsylvanians: and as such we call upon you to unite as one man in the support of those glorious institutions under which our country has attained a growth and prosperity unequalled in the past history of the world. Let your young men advance to meet the threatening invaders, your old citizens organize for the defence of their domestic hearths. Let ample provision be made for the support of the families of those patriots who may leave home and its pleasures for the stern duties of the tented field. Let a spirit of mutual forbearance and charity prevail. Losing sight of all minor differences in the great object of our country's salvation, and above all, relying on the justice of our cause, let us unite in the determination to transmit to posterity the inestimable blessing of liberty received from our ancestors, in calm yet earnest dependence upon the support and approval of Him who rules the nations with His rod, and without whose notice not a sparrow falls to the ground."

The hand that penned this admirable appeal has for years been dust. Living to see transmitted "to posterity the inestimable blessing of liberty received from our ancestors," he bore his share in the labors and sacrifices of the hour, in the same spirit that prompted the words of the address.

The address was received with loud demonstrations of applause, unanimously adopted and ordered published with the names of the whole committee attached, and to be read from the pulpits of the various churches on the following Sunday, and once in each of the public schools. The general committee then proceeded to organize with the following officers and sub-committees: President, Hon. William Wilkins; Vice Presidents, Thos. M. Howe, Hon. William F. Johnston, William Bagaley, John Birmingham, James P. Barr, Gen. George W. Cass. Secretaries, William M. Hersh, John W. Ridell, George H. Thurston, William Woods, Joseph R. Hunter, Thomas B. Hamilton. Treasurer, James McAuley. Finance Committee, Reuben Miller, Jr., B. F. Jones, M. K. Morehead, W. J. Morrison, James A. Hutchinson, W. S. Bissell. Executive Committee, which was ordered to sit in permanent session and, by a secretary, keep a record of its proceedings, William T. Johnston, Thos. M. Howe, Jas. M. Park, Jr., George P. Hamilton, Thos. S. Blair, Jas. H. Sewell, Jas. McAuley, Jas. B. Murray, William M. Lyon, Thos. Steele, Wm. R. Brown, Jas. Herdman, John R. McCune, Chas. W. Batchelor, Wm. M. Shinn, Wm. Phillips, B. C. Sawyer, A. C. Alexander, John Harper, Wm. Robinson, Jr., W. K. Nimick, Jas. M. Cooper, Francis Felix, Francis Sellers, Felix R. Brunot, Thos. Bakewell, Jas. A. Hutchinson, Henry McCullough, J. E. Parke, Reuben Miller, Jr., Edward Gregg, Geo. W. Cass, Wm. J. Morrison, Isaac Jones, M. Swartzwelder, Wm. Coleman, Dr. Geo. McCook, Sr., P. C. Shannon, E. H. Stowe, Wm. Wilkins, Jas. P. Barr, B. F. Jones, F. J. Bigham, Geo. H. Thurs-

ton, John Myler, Jas. P. Tanner, Samuel M. Wickersham, Joseph French, Robert Ashworth, Samuel Riddle, John M. Tiernan.

The Executive Committee organized with Hon. Wm. F. Johnston as chairman, and selected Geo. H. Thurston from its members for its secretary. A committee of Home Defence was also organized, consisting of P. C. Shannon, chairman; John M. Tiernan, secretary; Jas. Park, Jr., Wm. Phillips, C. L. Magee, T. J. Bigham, John Birmingham, Samuel Riddle, Col. Ed. Simpson, Thos. M. Marshall, John Harper.

Also a committee on Transit of Munitions of War. Joseph Dilworth, chairman; Robert Finney, secretary; Dr. E. D. Gazzam, Dr. Geo. McCook, Sr., Dr. J. R. McClintock, Henry Hays, Dr. Fundenburg, W. H. Smith, W. M. Hersh.

Also a committee on Support of Volunteers not yet Accepted by the Government. William Holmes, chairman; Joshua Rhodes, Alex. Speer, W. J. Howard, R. H. Patterson, John W. Riddle, Samuel McKelvey, Dr. Gallaher.

Also a committee for the Aid of the Families of Volunteers. Thos. Bakewell, chairman; G. L. B. Fetterman, secretary; Josiah King, John P. Pears, W. B. Holmes, John M. Irwin.

The several committees were directed to report daily to the Executive Committee, and be governed by their advice and directions. For several months the Executive Committee was in continuous session day and night, having been divided into sub-committees of three, who were in session three hours each, reporting each day to the whole meeting of the Executive Committee. The Executive Committee continued to perform their duties through the war. Those duties were various and onerous and at times delicate, and the Committee did not finally dissolve until 1874 when at a meeting held, March 28th, at the office of Gen. Thos. M. Howe, for the purpose of disposing of the papers of the committee, and finally closing its business, Geo. H. Thurston, its secretary, was, by resolution, instructed to examine its books and papers, and make a report upon the same with any suggestions that might occur to him. On the 9th of December, Mr. Thurston made a report which was accepted, and he was directed to seal up such books and papers as were of record and make some safe disposition of them for posterity, and the Committee adjourned *sine die*, the General Committee of Public Safety having ceased to act at the close of the war.

From that report the following extract is made, as exhibiting briefly, not only the scope of the committee's action, but also the spirit that governed them in the performance of many matters that came before them in the two first years of the war. Says the report: "There were three divisions to the actions of the committee. The first extended from April 18th to Sept. 16th, 1861, from which latter date until Sept. 4th, 1862, no meetings were held, or if held its proceedings for reasons were not recorded. From September 4th, 1862 until April 28, 1863, is recorded as the second series of the sessions of the Committee. The third series of its sessions were from June 15th to July 4th, 1863, held while the city was being fortified during the invasion of Pennsylvania by the rebel army under Gen.

Lee. The action of these latter sessions were rather those of the Committee of Public Safety, and the citizens generally, under the direction of the officers of the executive committee, and as such their proceedings were daily published in the papers of the city, instead of being recorded in the minute book of the Executive Committee, being deemed to be the action of the general public. The records of the action of the Executive Committee preserved in its minute book, is that of the two first series of its sessions. The first of those sessions from April 18th to September 16th, 1861, is the period of time in which the more delicate duties of the Committee were performed, and when the attendance was confined to the immediate and original members. The second series from Sept. 4th, 1862 to April 23th, 1863, were participated in by members of other committees, created by the General Committee of Public Safety, as the sessions indicate. Its actions were confined during those sessions within those dates, to the raising of volunteers, the procuring of arms, the formation of camps, and the organizing of Home Defense Troops. The last recorded meeting of the Executive Committee as a close committee, being, as before stated, on April 28th, 1863, when action was taken to forward citizen troops to Brownsville to meet the rebel raid into Morgantown.

"At the period of the formation of the Executive Committee of the Committee of Public Safety of Allegheny County the people were placed in a position without precedent in the history of the nation.

"It was evidently forecasted in the minds of the members of the Executive Committee that there might be duties to perform, actions to be taken, and matters to consider which it were well should be kept within the knowledge of its own members, and therefore at its first meeting the following resolution was passed and adopted:

"Resolved, That this committee sit with closed doors, and that its proceedings shall be secret and confidential until otherwise ordered.

"The resolution remains in force, it never having been otherwise ordered, only so far as relates to some few resolutions that were thought advisable to publish in the papers of the day.

"It was the impression among the members when ten years ago the records were placed in a safe depository by the secretary that there were those records on the minutes and in the papers of the committee not prudent to be known to the public, which by injudicious persons or personal enemies might be used to the injury of fellow-citizens or the members of the committee. This impression seems to have been derived more from their memory of things not recorded than from records made, and from recollections of discussions had on questions before them for decision.

"While 'we come to bury Caesar, not to praise him,' yet I may fitly say without offence, that the wisdom with which the duties of the various committees were performed so as to conserve the good of all without injury to any, seems to have held censorship over its minutes, which show no record of aught injurious to the reputation or interest of any. Only such action as indicated the precautions taken

to subserve the public good having been recorded, leaving to the burial of forgetfulness in happier days, any and all criminations and aspersions, arising from the unnatural, political, and social relations in which the peculiarities of the times temporarily placed citizens of the same community. From the same governing motives no papers have been preserved, other than those necessary to the explanation of the resolutions adopted, or sub-committees created, all of which are honorable to those named therein. It had been thought, and it had always been brooding in the mind of your secretary, that if on examination the records were such as rendered it well they should not be left for public criticism and animadversion, in the days when they who were of the committee should have ceased to be, that some brief history of the committee and its action should be made for posterity. One object of the duty which was assigned to your secretary, in March last, was to this end. An examination of the papers and records of the committee, shows that they may as they stand fitly, as its best history, pass down to posterity unchanged and unexpurgated, as a monument of patriotic duties assiduously performed, without a scar to personal reputation, or a suspicion to haunt, like a ghostly shadow, an individual name. The times in which the committee was created, the circumstances by which its members were surrounded, the grave duties they were called upon to perform, renders the action of the body an episode in the history of the country and of Allegheny County.

"In the records of this committee, and in the journals of the day, will be found all those proudest of its membership could desire. The records of the committee fully indicate the part borne by the members in the discharge of its duties. That record of all records, the newspapers of those days, have frequent and honorable mention of the names of all the members of this committee serving in prominent and arduous performance of public duties demanded by the times.

"To what the minutes and the journals of the day bear testimony in the daily recital of the labors performed by the various members, their reports, their addresses to the public, their appeals to the patriotism of the people, their speeches to the troops, their subscriptions to patriotic funds, there is no word to be added.

"It were best there should not be. In themselves the photograph of the hour, no invidious distinctions are made, no personal partiality swerves the pen, but each passes down to posterity dressed in that garb of duty, in that attitude of public service in which the hour found him."

Recurring to the point of the formation of the Committee of Public Safety, from whence a digression was necessary to present its history correctly, the records show that on the 15th of April, 1861, recruiting began for the troops for the army, and on the 17th a company called "The Turner Guards" left for Harrisburg.

At the second meeting of the Committee of Public Safety Hon. P. C. Shannon offered a resolution that each ward, borough and township in the county of Allegheny be requested to form a company of not less than fifty men for home defense; that this organization, for the present, be merely a volunteer one, not

subject to any other authority than that of the Committee of Public Safety, it being proposed that this organization "shall be the nucleus for future recruits for the public service of the country."

Under this plan of action companies were quickly formed. These companies were armed and equipped from a fund contributed by the banks, through the efforts of John Harper, president of the Bank of Pittsburgh, and also a member of the Home Guard Committee. He was the custodian of the fund, and disbursed it for the purposes for which it was contributed. On the 4th of July, 1861, a parade of the Home Guard companies, under the command of Major General William Wilkins, was had for inspection and review, the following companies being in line: Union Cavalry, thirty-five men; Mattern Guards, fifty men; Howe Infantry, sixty-five men; U. S. Zouave Cadets, twenty-eight men; Koener Guards, sixty-two men; Bagaley Guards, forty men; Kensington Guards, forty-eight men; Second Ward Home Guard, sixty-seven men; Ricketson Guards, fifty men; East Liberty Home Guards, fifty men; Glenwood Home Guards, forty men; Swissvale Home Guards, fifty-three men; Wilkinsburg Home Guards, fifty-eight men; Braddock's Field Home Guards, fifty-four men; Oak Hill Guards, forty-eight men; Oakland Guards, thirty-eight men; Versailles Guards, forty-two men; Penn Township Home Guards, sixty-six men; Keystone Rifles, forty men; Seventh Ward Home Guards, thirty-two men; Sharpsburg Rifles, eighty-five men; First Ward Allegheny Rifles, sixty-five men; Shannon Rifles, forty men; Arsenal Rifles thirty men; Allegheny Zouaves, thirty-two men; Stueben Guards, forty men; Harper Zouaves, fifty men; Fort Pitt Artillery, thirty-six men; Leet Guards, thirty-eight men; Allegheny Grays, sixty men; Anderson Infantry, thirty-six men; Twin City Rangers, forty-two men; Madison Guards, sixty men; Duquesne Guards, fifty-six men; Duquesne Cadets, twenty-eight men; Shaler Home Guards, sixty men; Keystone Home Guards, forty-two men; Duquesne Home Guards, thirty-six men; Third Ward Home Guards, fifty-two men; Allegheny Zouave Cadets, forty-four men; East Birmingham Guards, forty-six men; Rich Valley Home Guards, fifty-four men; Union Guards, fifty-two men; South Pittsburgh Infantry, sixty men; Dilworth Guards, fifty-seven men; Ellsworth Guards, forty men; Lower St. Clair Guards, forty-eight men; West Pittsburgh Guards, fifty men; West Liberty Guards, forty-five men; East Birmingham Guards, forty-four men; Lawrenceville Guards, forty men; Fifth Ward Guards, Company A, forty-eight men; Fifth Ward Guards, Company B, fifty-two men; Fifth Ward Home Guard, forty-eight men; Jefferson Guards, (Eighth Ward, Pittsburgh,) fifty-four men; Scott Rifles, forty-eight men; Second Ward Rifles, forty-four men; Union Rifles, (South Pittsburgh,) fifty-two men; Duquesne Central Guard, fifty-six men; Park Rifles, forty-two men; Eighth Ward Rifles, forty-two men; Columbia Rifles, fifty-six men; Bradley Greys, thirty-eight men; Dalzell Zouaves, twenty-six men. The number of men and non-commissioned officers in the ranks were 3,077, and, including company, regimental, and brigade officers, 3,300.

This detailed record is given not only because it is a part of the history of Allegheny County, but as an act of justice to the Home Guard and its projectors,

because of the many sneers made at the time and since at this organization of soldiers. The organization formed just what the committee intended and believed it would be—"the nucleus of future recruits for the public service of the country." There was not one of the sixty-four companies that did not contribute largely from its members to the several companies and regiments that under the various calls for troops by the government went to the front, furnishing thus not only new recruits, but those already drilled in the school of the soldier and, to some extent, in company and regimental drill, and consequently more immediately effective troops. Not only effective troops, but able company and regimental commanders and distinguished general officers as well were furnished from this school of the soldier.

The city and the county should be as proud of their Home Guard as of any other of their patriotic organizations and volunteer regiments. It was, so to speak, the West Point of Allegheny County, which fully justified in its results the hopes of the projectors of the organization and their preconceived ideas as to its importance. Although there were many in it who did not go to the tented field, men too old, or youths too young, if there were enough without them, as there were, many whose duties at home were of greater service to the country than their presence in the field could have been, yet they, in becoming a Home Guard, gave *prestige*, from their social and business standing, to the organization and inspired an *esprit du corps* that followed many a company recruited or volunteered out of the Home Guards for actual service to the field.

The subjoined record of companies and regiments recruited in Allegheny County during the war, and actually in the field, is thought to be nearly, if not quite, correct, and is a proud record of the county's patriotism:

Company I, of Third Regiment, recruited at East Liberty, Allegheny County; mustered in April 28th, 1861; mustered out July 23d, 1861.

Companies A, B and K, of Fifth Regiment, recruited in Allegheny County; mustered in April 20th, 1861; mustered out July 23d, 1861.

Companies A, B, E, F and K, of Seventh Regiment, recruited in Allegheny County; mustered in April 23d, 1861; mustered out 23d of July, 1861.

Companies A, B, C, D, I and K, of Twelfth Regiment, recruited in Allegheny county; mustered in April 28th, 1861; mustered out August 5th, 1861.

Companies A, B, C, D, E, F, I and K, of Thirteenth Regiment, recruited in Allegheny County; mustered in 25th of April, 1861; mustered out 6th of August, 1861. This regiment organized again for three years' service, and was known as the One Hundred and Second Regiment.

Company K, of Fourteenth Regiment, Company L, of Twenty-eighth Regiment, recruited in Allegheny County. Knaps Battery, Company E, of the Twenty-eighth Pennsylvania Volunteers, was also attached to the regiment. The regiment participated in the following battles, in which Company L and Knaps Battery took part: Pitcher's Mills, Point of Rocks, Berlin, Knoxville, Bolivar Heights, London Heights, Middleburg, Salem, White Plains, Warrenton, Piedmont, Front

Royal, Cedar Mountains, Antietam, second battle of Bull's Run, Winchester, Chancellorsville, Gettysburg, Murfree's Boro, Winhatctue, Lookout Mountain, Missionary, Ringgold, Mill Creek and Snake Creek Gaps, New Hope Church, Pine Knob, Pine Hill, Lost Mountain, Muddy Creek, Nose Creek, Kolb's Farm, Kenesaw Mountain, Marietta, Peach Tree Creek, Pace's Ferry, and March to the Sea. Mustered in June 28th, 1861; mustered out July 18th, 1865. Thirtieth Regiment, First Reserve.

Companies E, B and C, of Thirty-seventh Regiment, Eighth Reserve, recruited in Allegheny County; organized June 28th, 1861; mustered out May 4th, 1864. Battles—Mechanicsville, Gaines' Mill, Bull's Run, Antietam, Fredericksburg, the Wilderness

Thirty-eighth Regiment, Ninth Reserve, recruited in Allegheny County, except Companies F and H; organized on June 28th, 1861; mustered out May 13th, 1864. Battles—Dranesville, Mechanicsville, Gaines' Mill, Bull's Run, Junction of Newmarket, Charles City and Quaker Roads, Chantilly, Turner's Gap, Antietam, Fredericksburg and Round Top.

Company K, of Forty-fourth Regiment, First Cavalry, recruited in Allegheny and Washington Counties; mustered in September, 1861; mustered out September 9th, 1864. Battles—Strusburg, Woodstock, Harrisonburg. They supported Knaps Battery at Cedar Mountain, Bull's Run, Fredericksburg, Brandy Station, Aldie, Gettysburg, Muddy Run, Beverly Ford, Mine Run, General Sheridan's raid on Richmond, Malvern Hill, Grovel Hill, twin sister to Malvern Hill, Ream's Station and front of Petersburg.

Companies B and F, of Forty-sixth Regiment, recruited in Allegheny County; mustered in September, 1861; mustered out July 16th, 1865. Battles—First engagement in front of Winchester, Cedar Mountain, Gettysburg, Resaca, Atlanta, Chancellorsville, Kenesaw Mountain, Dallas, Peach Tree Creek, and Sherman's March to the Sea.

Company K, of Forty-ninth Regiment, recruited at Pittsburgh; mustered in April 14th, 1861; mustered out July 15th, 1865.

Companies C and E, of Fifty-seventh Regiment, recruited in Allegheny and Mercer counties; mustered in June 29th, 1865.

Companies B, C, E, F, H and K, of Sixty-first Regiment, recruited in Allegheny County previous to August, 1861. Companies H, I and K were mustered in February, 1861. The regiment was organized in August, 1861; mustered out June 28th, 1865. Battles—Fair Oaks, Turkey Bend, preliminary to the battle of Malvern Hill, Fredericksburg, Mary's Heights, Rappahannock Station, Wilderness, Winchester, Antietam, and Cedar Creek.

Companies A., B., F., G., K. and L. of Sixty-Second Regiment recruited in Allegheny county. Mustered in July 1861, Mustered out July 13th, 1864. Battles,—Malvern Hill, Harrison's Bar, Gainesville, Second Battle of Bull's Run, Fredericksburg, Chancellorsville, Gettysburg, Chickahominy, Antietam, Mary's Heights, Spottsylvania, Norfolk and Petersburg Rail Road, Jerusalem Plank Road, and the Wilderness.

Companies A., B., C., D., E., H., I. and K. and part of G. of Sixty-Third Regiment recruited in Allegheny county. Mustered in Aug., 1861. Mustered out Sept. 9th, 1864. Battles,—Charles City Cross Roads, Malvern Hill, Second Battle of Bull's Run, Fredericksburg, Chancellorsville, North Anna River, Locust Grove, Coal River, Gettysburg, Kell's Ford, and Siege of Petersburg.

Companies B., E., and G. of Sixty-Fourth Regiment Fourth Cavalry, recruited in Allegheny county, Mustered in October 18th, 1861. Mustered out July 1st, 1865. Battles,—Peninsula Campaign, Chickahominy, Malvern Hill, Harrison's Landing, Mechanicsville, Antietam, Chancellorsville, Gettysburg, Wilderness, Second Swamp, Plank Road, Hatchers Run, and Dinwiddie.

Companies L. and M., of Sixty-Fifth Regiment recruited in Allegheny county, part of M. being secured in Venango county. Mustered in from July 7 to Oct. 15. Mustered out August 7th, 1865. Battles,—Chancellorsville, Peninsula Campaign, and Petersburg Campaign.

Company I. of Sixty-seventh Regiment recruited in Allegheny county. Mustered in April 1865. Mustered out July 14th, 1865.

Companies B., C., D., E., F., G., H., I. and part of K. of the Thirty-fifth Penn'a Regiment afterwards Seventy-fourth Regiment recruited in Allegheny county. Mustered in as the Thirty-fifth Penna Regiment on the 14th of September 1861. Mustered out August, 1865. Battles—Chancellorsville, Cross Keys, Cedar Mountain, Freemans Ford, Fredericksburg, Gettysburg, and service in South Carolina. Part of Company K of the Seventy-sixth Regiment.

Companies B., C., D., and E. of the Seventy-seventh Regiment recruited in Allegheny county. Company B., mustered in Sept. 8th, 1861. Mustered out December 6th, 1865. Other two companies only three months service. Battles,—Stone River, Pittsburgh Landing, Liberty Gap, Murfreesboro, Peach Tree Creek, Tunnel Hill, Rocky Face Ridge, New Hope Church, Franklin and Nashville.

Extra companies F., I. and H., of Seventy-eighth Regiment recruited in Allegheny county. Mustered in March, 1865. Mustered out September 11th, 1865.

Company M. and part of H. of Eightieth Regiment of Seventh Cavalry, recruited in Allegheny county. Mustered in October 1861. Mustered out August 23d, 1865. Battles,—Murfreesboro, Stone River, Shelbyville, Nashville, Salem, and Columbus.

Company B., of Eighty-second regiment, recruited in Allegheny county. Mustered in August, 1861. Mustered out 13th, July 1865. Battles,—Fair Oaks, Charles City Cross Roads, Fredericksburg, Malvern Hill, Salem Heights, Cold Harbor, Gettysburg, Winchester, and Shenandoah Valley.

Two extra companies G. and H., of Eighty-third Regiment recruited in Allegheny county. Mustered in March 2nd, 1865. Mustered out June 28th, 1865.

Extra companies G. and F. of Eighty-seventh Regiment recruited in Allegheny county. Mustered in March 1st, 1865. Mustered out June 1865. Companies I. and E., One Hundred and First Regiment recruited in Allegheny county, and companies A. and G. partially recruited. Mustered in at various dates in the

Fall of 1861. Mustered out 23rd of June 1865. Battles,—Williamsburg, Fair Oaks, Siege of Little Washington. The entire regiment with the exception of a few were captured at Plymouth.

One Hundred and Second Regiment, which sprang from the Thirteenth Regiment. The whole Regiment recruited in Allegheny county except part of company H. Mustered in chiefly in August, 1861. Mustered out 28th of June 1865. Battles,—Williamsburg, Fair Oaks, Malvern Hill, Chancellorsville and Gettysburg. This regiment was reinlisted from the Thirteenth nearly all responding, and became a veteran regiment, and was entitled to a veteran's furlough. Later Battles,—Wilderness Spottsylvania, Cold Harbor, Petersburg Siege, Winchester, Appomattox, Salem Heights and Fishers Hill.

Company C, of One Hundred and Third Regiment, and part of Companies F, K and I, recruited in Allegheny County; mustered in 24th of February, 1861; mustered out June 25th, 1865. Battles—Fair Oaks, Williamsburg and Malvern Hill. Surrendered at Plymouth.

Part of Company D, of One Hundred and Fifth Regiment; Company E, of One Hundred and Seventh Regiment.

Of the One Hundred and Twenty-third Regiment, Companies F and I, recruited at Tarentum; part of Company H, from Greene County, and the rest from Allegheny County; equipped and armed the 29th of August, 1862; mustered out May 13th, 1863. Battles—Chancellorsville and Fredericksburg. In nine months' service.

Companies E, F, G and H, of One Hundred and Thirty-sixth Regiment; recruited in Allegheny County; organized on the 20th of August, 1862; mustered out May 29th, 1863. Battles—Fredericksburg, Mud March and Chancellorsville. In nine months' service.

One Hundred and Thirty-ninth Regiment were all from Allegheny County, except part of Companies E and I; organized at Camp Howe September 1st, 1862; mustered out June 21st, 1865. Battles—Fredericksburg, Chancellorsville, Gettysburg, Rappahannock Station, Wilderness, in the operations about Spottsylvania Court House, Fisher's Hill, Cedar Creek, and Winchester, in the Shenandoah Valley.

Of the One Hundred and Forty-ninth Regiment and of the Fourteenth Cavalry many of the men were from Allegheny County. The regiment participated in a number of battles.

All the companies, except G and H, composing the One Hundred and Fifty-fifth Regiment were recruited in Allegheny County; mustered in September 5th, 1863; mustered out June 2d, 1865. Battles—Antietam, Fredericksburg, Mary's Heights, Chancellorsville, Gettysburg, Round Top and Little Round Top, Rappahannock Station, Mine Rock, Wilderness, Laurel Hill, Cold Harbor, Peeble's Farm, Hatcher's Run, Quaker's Road, Gravelly Run, Five Forks, Sailor's Creek, Tolopotomy, Dadney's Mill, Jericho Ford.

Of the One Hundred and Sixtieth, One Hundred and Sixty-third and One Hundred and Sixty-eighth Regiments a large number of the men were recruited in Allegheny County.

Batteries A, B, C, E, F and H, of the Two Hundred and Fourth Regiment, Fifth Artillery; mustered in September 10th, 1864; one year men; mustered out at the end of term.

Batteries B, C, D, E, F, G, H and L, of the Two Hundred and Twelfth Regiment, Sixth Artillery; organized at Camp Reynolds, near Pittsburgh, September 15th, 1864; one year men.

Companies A, C and D, of First Battalion; six months' cavalry.

Companies A and C, First Battalion, Pennsylvania Infantry.

Companies A, B, C, and D, First Battalion, Artillery; one-hundred day men.

Company G, of First Maryland Cavalry.

Two companies of negro troops in the Fifty-fourth Massachusetts Regiment.

Friend Rifles in a New York regiment.

Thompson's Battery, Independent Battery C; mustered in November 6th, 1861; mustered out June 30th, 1865. Battles—Cedar Mountain, Second Bull Run, South Mountain, Fredericksburg, Chancellorsville, Gettysburg, Mitchell's Ford.

Hampton's Battery, Independent Battery F; mustered in October, 1861; mustered out June 26th, 1865. Battles—Cross Keys, South Mountain, Middletown, Winchester, White Sulphur, Waterloo, Second Bull Run, Chantilly, Fall's Church, White Hall Church, Antietam, Charlestown, Peach Orchard, Blackburn's Ford, Mine Run, Chancellorsville.

Youngs Battery, Independent Battery G, mustered in August 21st, 1862; mustered out June 18th, 1865; mostly employed in garrison duty. Nevin's Battery, Independent Battery H, mustered in September 30th, 1862; mustered out June 18th, 1865. Knapp's Battery, see Fourteenth Regiment. Independent Battery, six months men, one company. Union Cavalry and Morehead Cavalry, one company each. Pittsburgh Fire Zouaves, mustered in June 14th, 1861, three years. Of this company no record appears of its assignment, or when mustered out. Fifteenth Regiment, Pennsylvania Militia, mustered in September 15th, 1862; one hundred day men.

Pittsburgh Independent Scouts; Spang Infantry; Wood Guards; Minute Riflemen; Plummer Guards; Anderson Infantry; one company each.

Pennsylvania Dragoons; National Cavalry; Young's Cavalry; Faith's Cavalry; Bagaley Cavalry; Keystone Cavalry; one company each.

There were, no doubt, other single companies from Allegheny county, who were accepted in the regiments of other States, but there is no records that enables them to be traced. Of these there were two companies among the West Virginia troops. It has been computed by those best informed, that over 20,000 of the men of Allegheny County, in some organization, either military or naval, bore arms in defense of the Union. The battles in which they participated has been to some

extent given, but there is no question that many have been omitted from want of information, as well as the minor skirmishes and "affairs." Enough has been given to show that the troops from "Old Allegheny" were no holiday soldiers and upheld the honor of the county grandly on many a "well fought day."

The women of the county were side by side in their patriotic sentiments with their fathers, husbands, and brothers, and through their assistance, on August 1st 1861, was organized a Subsistence Committee, for the purpose of furnishing meals to all the troops passing through the city.

The Subsistence Committee was the outgrowth of the personal efforts of two of Pittsburgh's leading manufacturers, to improvise a hasty lunch for a regiment which was among the first troops from the west to pass through the city. They procured some boxes of crackers and some boxes of cheese from a retail grocery store, and rolled the boxes, with their own hands, along the street to where the troops were resting. The next day arrangements were made to prepare a meal for all troops passing through the city. It was soon found that more time would be required to have these meals served "decently and in order," than the business men could spare from their business and other duties, and it was proposed that the women of the two cities should take the matter in charge. It was with some hesitation that this was adopted, as from the rude and reckless actions of some of the troops it was feared it would be unpleasant, to say the least, for ladies. It proved otherwise, many of the most cultured women of the two cities eagerly accepting the duty, and their presence and their serving at those dinners, breakfasts, and luncheons, was received by the troops as a compliment; there never was occasion to complain of a rude action or word from any of the thousands of soldiers of all nationalities, who were thus cared for by the Subsistence Committee, and the whole business of the committee was carried on by the women of Allegheny County. The first regiment was dined July 26th, 1861, a few days before the committee was fully organized. From that time until January, 1866, when it finally dissolved, no body of troops passed through the city, whether by night or day, without being furnished with a breakfast, lunch, dinner, or supper. The movement was purely voluntary, and sustained by personal contributions.

During the period of its organization, 469,745 soldiers were fed, not only the loyal troops but occasionally squads of rebel prisoners. In addition to which, 79,460 sick and wounded soldiers were cared for at the Soldiers Home, some of whom were prisoners of war from the Confederate army. It was not alone in this work that the women of Allegheny County expressed their loyalty and devotion to the Union. The old Scotch and Irish blood of the matrons who, in the early days of Fort Duquesne and Fort Pitt, fought the Indians with their male relatives in their log cabins and block houses, showed itself in their daughters. Every ward of the city, many of the townships and small villages, every church and public school had its coterie of women, busy preparing boxes of clothing and delicacies for the camp hospitals, and not a few went with the boxes to take upon themselves the duties of nurses. For it was not alone in furnishing troops for the

battle field, or by standing ready by night or by day to cheer with a breakfast, or dinner, or supper, served by Pittsburgh's fairest faces and whitest hands the passing soldier, grim with the smoke of battle and weary with his march, that the patriotism of Pittsburgh women kept step in the line of duty ; their hearts were away in the camp, reaching out to the bivouac, sorrowing beside the hospital couch, or grieving over the wounded on the battle field.

It was also after the battle of Shiloh that the great heart of Pittsburgh went throbbing with sympathy over the story of the wounded of that terrible day ; nor rested until two well appointed steamboats sailed for Shiloh, carrying some of Pittsburgh's most manly hearts and skillful surgeons to that distant battlefield, to gather into those boats, under the care of those surgeons and tender nurses, the wounded, and bring them to Pittsburgh for restoration to health. As the boats proceeded up the river, those of the wounded who desired it were left at cities and landings as near their homes as possible. Fifty-four were brought to Pittsburgh ; of whom eight belonged to Iowa regiments, seventeen to Illinois, seventeen to Michigan, three to Ohio, three to Missouri, two—who were prisoners of war—to Alabama, and three whose State or regiment was not recorded. Of these eight died in the hospital ; being two from Iowa, two from Illinois, and four from Michigan. Forty-two were regularly discharged on recovering, and helped on their way with tickets to their homes.

In 1863, while Grant was besieging Vicksburg, the Secretary of War applied to the Board of Trade to appoint a committee to superintend the construction of three iron clads, so called, to be used on the Mississippi river at that siege. These boats were constructed on a plan of Captain Eads, of Mississippi Jetty fame. They were three staunch river boats, which were cased above the water line with heavy one-fourth inch iron plates, and intended more to protect the troops upon them from musketry than artillery. They rendered the service for which they were intended. At the same time one hundred mortar boats were built by Watson & Munroe. These boats were formed of iron plates, nine feet long, 4 feet wide, and five sixteenths inches thick, pierced with a three inch port hole in each plate for rifle firing. These plates were shipped by the car load to St. Louis, where they were put together. The ends of the boats were constructed to be let down, so that they could be used as pontoons if necessary. The work of constructing these boats was prosecuted night and day, and were a part of the plan of War Department in connection with the iron clads mentioned above.

Soon after the recruiting began, in 1861, a Relief Committee, to provide for the wants of the families of volunteers who had come forward at the first call for troops, leaving, in many cases, their families unprovided for. This committee was formed under the direction of the Finance Committee of the Committee of Public Safety, and on the 15th of June, two months after the first company left for the battlefields, had 750 families on their roll. Cash, dry goods and groceries were liberally contributed by the business men of the city, and \$24,251.90 were thus contributed and distributed during the summer of 1861. In the fall and winter of

1816, the Relief Committee was organized under an Act of Legislature. The County Commissioners assumed the distribution of relief, and a three mill tax levied to meet the expenditure. For the year 1861 the sum assessed was \$55,775, and for 1862 the amount was \$54,927. This sum was exhausted by August of 1862, when the last relief under this organization was paid out, although in other private ways the payment of reliefs to the families of soldiers in the field was continued.

Sunday evening, June 14th, 1863, was another notable date in the history of Allegheny, and the beginning of a short period of public excitement, quite as marked as that occasioned by the firing on Sumter. On that evening dispatches were received by Major General Brooks, then commanding the department of the Monongahela, from Secretary Stanton and Major General Halleck, stating that the city was in imminent danger from the rebel forces, and advising him that no time was to be lost in putting the city in a state of defence.

From the outbreak of the war uneasiness had existed at Washington City as to the possibility of an attempt on the part of the confederates to capture Pittsburgh. This is set forth in a letter dated April 28th, 1861, to Governor William F. Johnston, Chairman of the Executive Committee of the Committee of Public Safety, from Nicholas R. Wade, Esq., of the Fort Pitt Cannon Foundry, communicating some requests made in a letter from Charles Knapp, Esq., written from Washington City, dated a day previous, in which Mr. Knapp writes:

"At Washington Pittsburgh is considered a most important strategical point, commanding, as it does, the Ohio river, containing so many manufacturing establishments, and especially an arsenal, powder magazines and a cannon foundry, it is a place the enemy would necessarily be very anxious to possess. * * * I do not represent my own views, but those of one at headquarters and cognizant, as far as any private individual can be, of the views of the government."

This uneasiness as to a possible attack on Pittsburgh continued to exist, and in May and June, 1863, when the confederates were concentrating for an invasion of Pennsylvania, among loyal men in a position to know at Washington and in West Virginia and in Pittsburgh, there existed no doubt that the city of Pittsburgh was in great peril. On the 10th of June, four days before the dispatches already mentioned as received by General Brooks, the following dispatch was sent to Pittsburgh :

WAR DEPARTMENT, 11:45 P. M.,
WASHINGTON, June 10, 1863.

To HON. THOS. M. HOWE:

Major General Brooks left here this morning for Pittsburgh to take command of the Department of the Monongahela. He is an able and resolute officer, but will need all the assistance you and your people can give. I wish you would go on his staff. The latest intelligence indicates that you have no time to lose in organizing and preparing for defense. All the field artillery on hand at Watertown has been sent by express to Pittsburgh. Whatever aid can be given here you shall have.

EDWIN M. STANTON.

General Brooks arrived in Pittsburgh on June 11th, and on the evening of the 14th a meeting of the more prominent manufacturers, and other citizens, was at

once called by General Brooks for consultation. It being Sunday evening, many of those whose advice was desired were at church, and were called out by special messengers. The meeting continued in session until a late hour. At midnight it was determined that the work-shops should all be closed, and the men employed throwing up earthworks around the city, under charge of the government engineers, who had been sent from Washington to lay out the defences. This was done; and for two weeks' time Pittsburgh bore much the aspect of a beleaguered city. During that time thousands of men were busy constructing rifle-pits and earthworks for the mounting of cannon. From fifteen to sixteen thousand men were at times laboring in the entrenchments, which extended from Saw Mill run, now in the Thirty-sixth ward of Pittsburgh, along the range of hills running up the south side of the Monongahela, to about opposite the Four Mile run, in the Twenty-third ward of Pittsburgh; across the city from the Monongahela to the Allegheny, and on the Allegheny side along the Ohio river.

The extent and strength of those fortifications constructed in two weeks' time is best shown by the following extract from a report made by Captain Craighill, an United States engineer officer in charge of the work, to the Committee of Public Safety before mentioned. Says the report, "It is well known that when General Barnard arrived here, the city was not supposed to be threatened by anything more serious than a raid of a few thousands of cavalry or mounted infantry, accompanied by light artillery. The instructions from Washington under which we acted looked to securing the city against attack. This has been done. We are, moreover, in a condition to make a vigorous defence against an army,"

On the day succeeding the Sunday evening meeting, a dispatch was sent by Governor Curtin to Hon. Thomas M. Howe, then and for some time previous Assistant Adjutant General of the Western District of Pennsylvania, communicating the movements of the Confederates, and urging him to arouse the public:

HARRISBURG, June 15, 1863.

HON. T. M. HOWE:

The following received from Chambersburg, eight P. M.; make it public and arouse the people: "Lieutenant Palmer, of Purnell's Cavalry, has just come in; had to fight his way through two miles this side of Greencastle; reports enemy advancing in three columns—one towards Waynesboro and Gettysburg; one direct to Chambersburg, and one toward Mercerburg and Cove Mountain; not known whether they will proceed in separate columns or concentrate here. Large fire seen in direction of Greencastle. Palmer reports column at Greencastle about five thousand strong, principally cavalry, supported by infantry and artillery."

A. G. CURTIN,
Governor of Pennsylvania.

On the 17th the following spirited order was issued by General Howe:

HEADQUARTERS PENN'A MILITIA, WESTERN DISTRICT,

PITTSBURGH, June 17, 1863.

Reliable advices having been received at these headquarters that a force of the enemy at eleven o'clock this morning had advanced twelve miles westward from Cumberland, giving unmistakable indications of their purpose to invade this neighborhood, I desire again to call upon all good citizens in Western Pennsylva-

nia capable of bearing arms to enroll themselves immediately into military organizations and to report to me for duty.

If we would stay the march of the invader, we must be prepared to admonish him that we are fully organized and ready to receive him in a manner becoming freemen who cherish time-honored institutions, in defence of which so many of our sons and brothers have already offered their lives a willing sacrifice. Let us emulate their glorious example, and never let it be written of us that we proved recreant in the hour of danger. Whenever companies are duly enrolled and reported to these headquarters, they will be called and assigned to duty by Major General Brooks, whenever and as the emergency may seem to demand, and who will be prepared to furnish arms and equipments.

THOMAS M. HOWE,
A. A. Adjutant General State of Penn'a

In connection with this order it is proper to mention that the entire handling and movements of the volunteer and drafted troops in their preliminary organization were through General Howe's orders and oversight. Enjoying throughout the war the fullest confidence of the general and State government, the labors of his office were performed by him without compensation or without recompense, satisfied with the consciousness of fully rendering that patriotic service prompted by his high sense of his personal duty to his country in its hour of peril.

During the two weeks in which the city was being fortified business was to a great extent suspended, and for several days entirely so. The necessity of those expenditures of time and money has frequently been questioned by those not fully acquainted with all the circumstances. There is little or no doubt that the capture of Pittsburgh was contemplated by the rebels. Its geographical position, its resources, and the vast arsenal that was, and could be made, all rendered it a strong strategical point, whose possession or destruction was most important. At the time the city was fortified, General Lee was marching into Pennsylvania, while the rebel forces were being massed along the frontier line of West Virginia and Pennsylvania. An advance guard of rebel cavalry occupied Morgantown, and another body of horse were sweeping up the valley between the ranges of the Allegheny mountains toward Bedford and Johnstown. A force of rebels occupied McConnellsburg, and held the telegraph office there. By these messages were exchanged with the operators of the Western Union Telegraph Company at Pittsburgh, in which the rebels stated their intention of reaching the city, and were in turn informed of the preparations making to receive them. A body of the cavalry advance, at Morgantown, had crossed the Cheat river to proceed to Pittsburgh, which, by cross country roads, was less than a sharp day's ride, when word was received by the leaders, through messengers sent by spies, that the city was being strongly fortified. Upon which information they retreated across the river, and finally fell back from Morgantown.

Had the result at Gettysburg been different, there is no doubt that Pittsburgh would have been attacked. This is apparent from the forces which gathered at Morgantown and the vicinity, and were concentrating at McConnellsburg and that section.

Had the city been taken by the rebels, the result of the contest for the preservation of the Union might have been different. The East and the West would have been severed.

Pittsburgh's position is one that admitted of being strongly fortified, and an area enclosed that would amply support a large body of troops, while the Ohio river gave facilities for fitting out armed flotillas to command the western waters. Had it been captured, there is but little doubt the rebels would have endeavored to have held the city. Its admirable facilities for the manufacture of munitions of war; the opportunities of receiving supplies from Canada; its capability of being strongly fortified; a capability so great, that a Commission of U. S. Engineers, who made an examination on this point in June, 1861, pronounced it the strongest position they knew in the country; its strategetical power as severing the West and the East, and thus rendering difficult the movement of troops between the two sections, would all have made it important for the Confederates to have held the city if possible; and succeeding therein, caused, perhaps, a different ending of the civil war.

The fortifying of Pittsburgh was by many looked upon as a "Scare," and many of her own citizens have been accustomed to so pronounce it. If it was a scare, it was participated in by the government from a knowledge of the importance of the place as a military supply point, as well as the gate between the East and the West. It was a scare on the part of those who knew the intentions of the rebels, and of a few who were aware that the fall preceding the outbreak of the war, a most thorough military and engineering reconnoisance was made, with ulterior objects, by a person in the interests of the Confederates, and that at the time of the advance of Lee's army into Pennsylvania, this reconnoisance, with a map showing all the details of the topography of Pittsburgh, was in the hands of the Confederate government.

The many minor and personal incidents connected with the history of Allegheny county from 1861 to 1865, with the struggle for the preservation of the Union, are too numerous for the scope of this volume and must be left for some future biographical historian to collect. In these pages only the more important events can be touched upon, as has been the rule of the sketch of earlier years.

On June first, 1864, was opened the great Sanitary Fair, which for weeks was crowded by thousands on thousands of young and old, eager to contribute to the fund to raise which the fair was projected. That effort was as glorious in its results as it was in its conception, and the object to which its profits were to be devoted. Like the story of "Pittsburgh soldier boys," the details of the Fair cannot be entered into in this volume. It is sufficient here to record, that the amount of money received from the Fair was \$361,516.17. A portion of this patriotic fund unexpended during the war was devoted to the endowment of the Western Pennsylvania Hospital, in the 12th ward of the city. The sum of \$203,119.57 was handed over to the Board of Managers of the Pittsburgh Sanitary Soldiers Home, in cash and other articles; it being a stipulation of the gift that Pennsylvania soldiers sick or infirm should always be admitted for treatment free of charge.

There are many incidents connected with these outpourings of the patriotic feeling of Allegheny county that might be narrated, and of personal service, but it would be inviduous to mention any where so many gave time and money to accomplish the end that was attained. The whole population joined in the work of making the Fair a great pecuniary success. How much so is shown by the fact that the receipts were equal to \$3.47 for each man, woman and child in the cities of Pittsburgh and Allegheny.

To narrate all of the many incidents of personal sacrifice and individual labors of men and women of Allegheny county during the war for the preservation of the Union, would in themselves fill a volume of many pages. Collectively, many are embraced more or less in the narrative of the leading events already given. To select instances of individual services would be unjust to others where none whose sympathies were with the Union army did not in some way perform the duty they were asked to discharge, or volunteer their services. Whatever difference of opinion on the conduct of the war might have existed, when the echoes of the guns of Sumter startled the Nation, long before the rebel troops had invaded the soil of Pennsylvania, the citizens of Allegheny county were a unit.

The brief sketch that has been here given of the more important incidents in the county, connected with the war, during that period, are all that is required to present historically in this volume, its action, its sentiments, and its attitude through those years.

CHAPTER VII.

From 1865 to 1878.

With the close of the war Allegheny County became to a greater degree than ever, active in the development of its resources. The call that had been made on her manufacturers from 1861 to 1865, for almost every description of munitions of war, had augmented greatly their capabilities, and brought thousands of skilled workmen into its boundaries, and thus largely increased its population. The decade from the close of the war, 1865 to 1875, while full of the personal and business incidents consequent upon the continuous growth in population and manufacturing development of the county, are chiefly interesting from a personal point of view. They would be but a pre-recital of what is necessarily included in the statistical matter of subsequent chapters.

From 1860 to 1870 the population of Allegheny county increased from 178,831 to 262,204. That of the cities of Pittsburgh and Allegheny from 76,765 to 181,386. Among the more prominent minor occurrences of public interest, from 1860 to 1875, are the following:

The Allegheny county observatory which was founded in 1860, by the subscriptions of individuals, through the exertions of Mr. T. Bradley, a building

erected and a large equatorial telescope was, from pecuniary difficulties, retarded in its progress of usefulness until 1866, when a large sum was donated by William Thaw, which, with the aid of others, freed the institution from debt, and furnished the means of a partial endowment. In 1867, Prof. S. P. Langley, now of the Smithsonian Institute at Washington, was invited to assume the office of director. The equipment of this astronomical institution has been continually enlarged and perfected until it is second to none in the country. In this scientific incident of the history of Allegheny county, as in others, the pioneer spirit is again noticeable in the organization of a national benefit. Previous to 1869 astronomical time had been sent in occasional instances from American observatories.

In that year was inaugurated the "Allegheny system," which is believed to be the first systematic and regular method of time distributed to railroads and cities. In 1870 some forty-two railroads adopted the time of the Allegheny observatory, and over the net work of railroads connecting the Atlantic and western States, all trains are moved and all business carried on by the time primarily derived from a single clock in the Allegheny Observatory. By the repeating instruments of the telegraph line its beats are virtually audible at least once a day over a considerable portion of the United States. In other words, throughout whatever section of the country those forty-two railroads and their ramifications run, the business of the nation is ordered by the beats of a clock in Allegheny county.

On August 13th, 1861, the American flag was ordered placed on a spire of the Roman Catholic Cathedral by Bishop Domenic, of the diocese of Pittsburgh. In the same year the Pittsburgh and Birmingham bridge was built.

On the 11th of February, 1863, the first twenty-inch gun ever made in the world was cast at the Fort Pitt Foundry. From this foundry were shipped from September 1st, 1862, to September, 1863, 7,173,534 pounds of cannon, and 2,972,916 pounds of shot and shell.

On January 1st, 1865, the Pittsburgh and Allegheny Soldiers' Orphans' Home was opened, and the Allegheny Home for the Friendless was started. On June 25th, 1866, the Pittsburgh and Allegheny Orphan Asylum was opened. On June 29th St. Peter's Episcopal Church was dedicated, and on September 25th the Episcopal Church Home was opened. On December 17th St. Patrick's Roman Catholic Church was dedicated. In this year the Pennsylvania Railroad opened the Union Depot; the new Market-house in Allegheny City, and the Allegheny City Hall were completed, and steam, for the first time in the world, applied to the working of capstans, by Captain John McMillan, of Pittsburgh. In 1866 was abolished the old time-honored custom of calling the hour by the night police. This custom, originating in the "old countries," had been a custom of Pittsburgh decades after its abolishment in other American cities.

On March 26th, 1867, the State Legislature passed an Act converting the common grounds of Allegheny City, which the "in-lot holders" of the property had held as public pasturage ground, into that which is now the beautiful public parks of that city.

On April 12th, 1867, was chartered the Monongahela Incline Plane, a railroad running nearly perpendicularly up the face of Mt. Washington, on the south side of the Monongahela, by which was inaugurated the movement that has made the tops of all the high hills that surround the city of Pittsburgh as available for private residences as the more level portions of the city, and led to the building of five or six similar roads, thereby largely increasing the available building area without extension of territory.

On November 30 of this year was constructed the first locomotive ever built in Allegheny City, and in this year the greatest plate of iron ever rolled in the world up to that date was made in Pittsburgh, being 12 inches thick, $4\frac{1}{2}$ feet wide, and $12\frac{1}{2}$ feet long.

On the 8th of August, 1868, was laid the foundation stone of the new City Hall of Pittsburgh, which cost over \$500,000 when completed in 1872.

On November 13th, 1868, the corner stone of St. Andrew's Episcopal Church was laid; work on the Allegheny County Work-house begun, and Etna borough incorporated.

On November 12th, 1869, the Old and New School Assemblies of the Presbyterian Church convened at Pittsburgh, and were declared by their respective moderators dissolved, after which they met together, and, uniting, held services in commemoration of the reunion of the Presbyterians in the United States.

On October 11th, 1870, the negroes of Allegheny cast their first vote at the polls.

On July 26th, 1874, the county, and especially the city of Allegheny, was visited with a remarkable rain storm. The storm began about 8 P. M., accompanied by great electrical disturbances. The storm extended over an area of sixteen miles from the north and south, and five miles from east to west. The center of the storm culminated over and around Allegheny City, and was there most destructive, the force of the water being more in the character of the bursting of a water spout than ordinary shower. Houses were swept from their foundations, iron bridges borne along on the torrents that filled the streets, sewers torn up, great destruction wrought in the space of one hour, and one hundred and twenty-four persons were drowned.

The brief mention thus made of the prominent locally public incidents in the county's history here grouped present, as do previous ones, the same character of local enterprise and local public spirit, while the subsequent narrative of its specific industries, to which the reader therein interested is referred, a period of great development in its resources and manufacturing powers.

In 1877, the county suffered severe pecuniary loss, and detriment to its business interests, by what is known as the "Railroad Riot," which arose as have all riots, from the misguided actions of the working classes of the population, under the influence of hot headed or demagogical leaders. Several of these later riots and their causes are noted in the chapters touching the industries among whose workingmen they originated, but the riot of 1877, being of a more serious character and

really the culmination of threatening disturbances among the employees of railroads in various sections of the country, finds its most fitting consideration in the sketch of the county's general history. It was an occurrence that the pen hesitates to review historically, the whole affair being an exhibition of not only inefficient management on the part of authorities, but also of mob violence being sympathised with by some individuals of the respectable classes, until such time as the events showed that the public would be the sufferer, not the corporation against whom the actions of the mob were directed. The education of the public mind in that direction had been going on in various sections of the country for quite a year, before the outbreak, and the riot at Pittsburgh was unfortunate for the city, being the culmination there of the storm that had been brewing along the line of all railroads fomented by the inconsiderate language of business men in commenting on alleged discrimination and favoritism by railroad officials. Railroad discriminations being the theme dwelt upon to incite a feeling of hostility towards those corporations. As far back as July 23rd, 1876, a Pittsburgh paper in publishing an article headed, "Railroad Vultures" says, "Railroad officials are commencing to understand that the people of Pittsburgh will be patient no longer; that this community is being roused into action and that presently the torrent of indignation will give place to condign retribution;" and in another paragraph the same paper says it, "desires to impress upon the minds of the community that these vultures are constantly preying upon the wealth and resources of the country, they are a class, as it were, of money jugglers intent only on practicing their trickery for self aggrandizement and that, consequently, their greed leads them into all known ways and byways of fraud, scheming and speculating to accomplish the amassing of princely fortunes."

The province of history is not only to record bald facts, but in connection therewith to give such collateral circumstances as lead up to the culmination of events and enable posterity not merely to judge results but the motives from which they arose. The foregoing extracts, as illustrative of the tone of some of the public press utterances, show the condition of the mental atmosphere for a period preceding the month of July, 1877, and, barometer-like, indicate a threatened storm. They indicated an under current of public feeling, which, if not entirely in sympathy with the incendiary utterances quoted, were at least tending in that direction or they would not have been tolerated, and a repetition of them ventured on from time to time, as they were. It must not be assumed, nor does it so appear, that such was the spirit of the entire press, but it was a sufficient public expression to sow the seeds of vicious thoughts and for badly disposed demagogues to make use of. Nor is it assumed that any large part of the community sympathised with such a spirit, however much some individuals who may have felt aggrieved by actual or supposed discrimination were influenced by or approved such suggestions, however some, in moments of unreflecting irritation at what they believed to be grievances, might for the time justify the publication of such paragraphs.

Be this as it may, they were the seeds from which Allegheny county reaped its whirlwind, and as such are mentioned necessarily, in treating historically the riots of 1877, that not only the effects of the storm be of record, but its inducing causes.

For some months preceding the riots of Pittsburgh disturbances among the railroad employees, especially the engineers and brakemen of freight trains, had been frequent on railroads east and west of Allegheny. These disturbances arose mainly from resistance to reductions made or proposed by the executive officers of the various railroads in the rates of wages, and also from objections of the crews of trains to regulations governing their running.

Strikes were in progress or threatened on the chief trunk lines of the country, and the disturbances had affected the men on the Pennsylvania and the Pittsburgh, Fort Wayne and Chicago Railroads.

On Thursday, July 19th, 1877, the conductors and some of the brakemen of some of the freight trains of the Pennsylvania Railroad refused to take out their trains and would not allow other trains to move. There had been a reduction of ten per cent. on the wages of the men on the 1st of June, and an order had been issued that thirty-six freight cars, instead of eighteen as heretofore, were to be made up as a train without increase in the number of the crew, with a locomotive at the end to act as a pusher in assistance to the one drawing the burden, making what is technically called "a double header."

The train employees looked upon this as doubling their work under the decreased pay of June 1st, and in its effects as virtually tending to the discharge of every other man then employed in the running of freight trains. The strike does not seem to have been a seriously organized affair, but rather a sudden conclusion arrived at under the impulse of the moment, strengthened, no doubt, by the discontent that prevailed on the roads to the east and west, and the under current of hostility toward railroads evident by such publications as those previously quoted. There does not seem to have been at first any angry or mischievous feeling among the train hands, but simply an attempt by a "strike" to oblige the superintendent of the Western Division to secede from the order for the "double headers," or effect some compromise. The strikers did not seem to have been in a bad humor, but rather to the contrary, and were comparatively few in number.

It was not until 8:30 A. M. on the 19th that trouble began. Two freight trains were to start at 8:40, but ten minutes before the crews sent word that they would not take the trains out. Two yard crews were then asked to do so, but they refused. The trains were not taken out, and the crews of all the trains that came in, as they arrived, promptly joined the strikers. As the day wore on the men gradually congregated at the "round-house" of the road at Twenty-eighth street, but did not attempt or threaten any violence. The news of the strike had spread through the two cities, and large numbers of the more vicious class of the population, together with many workmen from the factories who sympathised with the strikers, hastened to Twenty-eighth street, and there was soon a formidable mob gathered, in which the few striking railroad employees were quite lost. The rail-

road officials finding their tracks and round-house in the posession of a mob which defied them, called upon the Mayor of the city for assistance, from the police, to which request the Mayor promptly responded going in person with the detail of officers sent. When the police arrived on the ground they found an excited assemblage of people who defied the city authorities. There was no collision, however, until a man who had refused to join the strikers attempted to couple some cars, when he was assulted. An officer of the road, who undertook to turn a switch, was also assulted by one of the mob, who was arrested by the police. His comrades began throwing stones, but the police maintained their hold of their prisoner, and conveyed him to the station-house. An immense mob gathered in front of the police station with the intention and threats of rescuing their comrade, but nothing was done. The mob which had, by this time, become greatly enraged, was really not one of the railroad employees, who had contemplated no such result of their strike, and generally deplored the turn affairs had taken. It was largely composed of the worst element of the population who, without any grievance, real or imagined, of their own, had gathered from the very force of their vicious inclinations and hope of plunder.

A meeting was held by the strikers that evening; at which they demanded that the ten per cent. be restored, and the running of "double headers" be abolished. It is quite probable that at this period in the course of the riot a few judicious persons might have changed the whole course of subsequent events, but the general public seemed to have been either unreflecting as to the possible danger, or indifferent to results as long as it only threatened railroad interests. The strikers did not intend mob violence, and many of them were chagrined at the company in which they found themselves. While they would, probably, not have acceded then to a withdrawal of their demands, they would have sided with the authorities to preserve order, and abate the mob by withdrawing themselves from any public expression, and used their influence to quiet the excited gathering. The railroad authorities, however, alarmed at the still increasing mob, and its utterances, invoked the aid of the sheriff of the county, and at midnight Sheriff Fife came to Twenty-eighth street, and ordered the rioters to disperse, which they, with hoots and jeers, defiantly refused, many of his hastily summoned posse deserting him even before he reached the scene of action. The sheriff then sought aid from the military, and General Pearson, being found about 3:00 A. M., issued an order to the Nineteenth and Eighteenth regiments National Guards of Pennsylvania, to march armed and equipped for duty at 6:30 A. M. This seemed to have been a hasty and ill considered action. It is no where apparent that the civil authorities of either city or county had in any degree exhausted their powers. But two feeble efforts had been made in commanding the mob to disperse, but no determined effort had been made with a strong posse to disperse the crowd, or even force it back from off the railroad, nor had any such *posse comatus* as the sheriff was empowered to call to his aid been organized.

Sheriff Fife also telegraphed to the State authorities that he was unable to quell the riot, and asked that General Pearson be asked to do so with his force,

which request Adjutant General Latta complied with. General Pearson marched his forces to the Union Depot and placed them in position in the yard and on the hillside above. The mob were not, however, deterred by this, as the file of the troops were more or less in sympathy with the strikers, and showed an evident disinclination to shoot down their fellow citizens if they should be ordered to do so. It was at this time that the great mistake was made in the management of the riot.

The Governor had been telegraphed to, and had ordered General Brinton's division of troops to leave Philadelphia for Pittsburgh. This became known to the mob, which was still increasing in number and turbulence, and they became infuriated at troops being called in from the east, as they expressed it, "to shoot down Pittsburghers." Sheriff Fife had appealed to the State authorities, and they, not fully understanding the matter, acted as the public peace seemed to demand. In anticipation of the coming of these troops the mob became sullenly vicious. The feeling had spread to the workingmen in the factories on the South Side, where a public meeting was held, and some reputable citizens addressed the people. At this meeting demagogical speeches, upholding the action of the strikers were made, communistic arguments used, the Pennsylvania Railroad denounced for its oppression of their employes, and for bringing hireling soldiers from the east to slaughter them; in consequence of which five hundred men in a body came from the South Side and joined the mob. Nor was the mob without continued encouragement from some citizens, who openly sympathized with the strikers, led thereto by personal feelings of dislike to the railroad company's business management, not reflecting that they were thus sustaining a mob whose depredations they would have to pay for. At this critical moment the mob received an endorsement that not only greatly encouraged it, but incited it to extreme deeds of violence. A leading paper, on Friday, the 20th, in the course of an editorial, headed, "The Talk of the Desperate," which formulated what is assumed as the expression of a workingman, in which this language was used: "This may be the great civil war in this country between labor and capital that is bound to come." And further, "The workingmen everywhere are in fullest sympathy with the strikers, and only waiting to see whether they are in earnest enough to fight for their rights. They would all join and help them the moment an actual conflict took place." And further, "The Governor, with his proclamation, may call and call, but the laboring people, who mostly constitute the militia, won't take up arms to put down their brethren. Will capital then rely on the United States army? Pshaw! It's ten to fifteen thousand available men would be swept from our path like leaves in a whirlwind. The workingmen of this country can capture and hold it, if they will only stick together, and it looks as though they were going to do so this time. Of course, you say that capital will have some supporters. Many of the unemployed will be glad to get work as soldiers, or extra policemen; the farmers, too, might turn out to preserve your law and order; but the working army would have the most men and the best

men. The war might be bloody, but the right would prevail. Men like Tom Scott, Frank Thompson—yes, and Wm. Thaw—who have got rich swindling the stockholders of railroads, so that they cannot pay honest labor living rates, we would hang to the nearest tree." Is it to be wondered that with such suggestive language in a leading editorial in an influential paper that the mob were worked up to the pitch of violence that prevailed on Saturday and Sunday following? Although the paper in a later edition suppressed that part of the editorial, and the other papers of the city refrained from any editorials that might increase the excitement, yet the mischief had been done, the unfortunate words had been said, and the more intelligently vicious of the rioters made the most of them.

It is possible, as furious as the mob had become, that it would still have subsided under judicious treatment had the troops been ordered back to Philadelphia. Those troops left Philadelphia on Friday night and arrived at the Union Depot on Saturday afternoon, tired and hungry and in an irritable mood. After a scant and hasty lunch they were pushed out along the tracks to the Round House where the great bulk of the mob was assembled. In order to secure and cover the building and tracks it was necessary that the mob should be forced back. This the troops, under orders, roughly and irritably proceeded to do, when some stones were thrown.

Some one in command of the troops blundered and, it is said, gave an order to fire. Who gave the order has never been settled. Both General Pearson and General Brinton emphatically denied giving the order, and it is possible the firing resulted from some imperfectly heard order to do something else, or some exclamation of the angry mob, heard imperfectly amid the howls and jeers, was understood by the troops as an order to fire, or initiated in an angry moment by some soldier, who having been hit with a stone, fired from impulse, and his comrades sympathetically followed in the volley. At all events the troops fired and about twenty persons were killed and thirty wounded, three of whom were children. It was a most wretched blunder from the fact that the Philadelphia troops not only fired at the mob in around the tracks, but poured several volleys in the direction of the hill above the yards, where the Nineteenth Regiment was on duty, and a large crowd of innocent spectators were gathered, killing and wounding a number. It is evident that the firing was not through any deliberate orders of the commanders, but the result of an angry impulse or sudden irritation, and was but a further culmination of the mistake, whose ever it was, that brought troops from a distant part of the State to add fuel to the passions of the mob, by arousing sectional prejudice.

Had the troops refrained from firing it is altogether possible that the force of military on the ground would, if coolly handled, have gradually forced the rioters off the ground of the P. R. R.

The ground once occupied and strongly guarded, as it could have been, the mob would ultimately have dispersed when the chance of plunder was shut off, as the most of the real strikers had virtually withdrawn from the active participation in the riot.

When, however, the mob saw their associates killed and wounded their rage burst all control, and the troops were closed in on and driven into the Round House. Encouraged by this the mob took steps to burn them out. Cars loaded with whisky and petroleum were set on fire and sent down the track against the building, and fire opened on it with a piece of artillery which the mob had gotten possession of. General Brinton came personally to one of the windows of the house and appealed to the mob to desist, warning them if they did not he must and would fire. The rioters paying no attention to his appeal and warning, and preparing to continue their assaults, General Brinton gave orders to a detail of his men to fire at the men handling the cannon, by which several of them were killed and wounded. This checked the madness of the mob for the time, but they still continued to press around and threaten the soldiers. Incendiarism, having been inaugurated, went on through the night, trains were rifled and then burned. The troops held their position until Sunday morning, and then retreated out Penn avenue, as far as Sharpsburg, where they went into camp.

During this retreat they were followed by a mob of two or three thousand persons, from which occasional shots were fired at the troops and some of them wounded. Some individual who, at the time and afterwards, rejoiced in the name of "Pat the Avenger," was in this conspicuous and persistent. Subsequent investigations failed to show that it was any one person, but it seems, like "Tom the Tinker" during the Whisky Insurrection, to have been a mob designation. General Brinton and his officers are deserving of much credit for forbearance under these harrassing circumstances of their retreat. They had with them a Gatling gun which would, had an order been given to fire, have made great havoc in the dense crowd. Angered as the troops were at the lose of comrades slain, irritated by the pursuing mob, and exposed to the occasional shots fired at them, their forbearance was wonderful. It would have been well had they exhibited that quality on the preceding Saturday afternoon, and their officers enforced the same discipline. Had it been, there would have been no bloodshed nor the incendiarism that followed inaugurated. The troops coolly handled would have gradually evicted the rioters from the railroad property, and maintained possession by the mere force of their numbers and presence, which was, no doubt, the object of those who invoked their aid. The few railroad employees who were dissatisfied, but who, as before stated, had no vicious intentions, could have been treated with, and the vicious element of the mob finding no opportunity to plunder or other riotous proceedings, would have gradually shrunk back from whence they came before the efforts of the police. Whoever gave the order to fire on Saturday afternoon is responsible for all that followed, or if no one gave such an order those of the Philadelphia troops who, wanting in soldierly coolness and discipline, fired from their own volition are. During Saturday night the Pittsburgh troops disbanded and left the grounds and General Pearson retired to a point down the river to escape the fury of the mob, who attributed to him the first order to fire.

During Saturday night and Sunday morning the mob seemed to have possession of the city. They broke open several armories and gun stores, and supplied

themselves with arms and ammunition. The banks were threatened and the city seemed about to be pillaged, the lower part of the city being filled with bands of rioters uttering threats of incendiaryism and murder. Several of the banks had armed bodies of men inside their doors, so eminent seemed the danger of their vaults, being broken into and pillaged. On Sunday morning the round house and the locomotives therein were destroyed by fire. The Union depot, the grain elevator the Adams Express building, and the Pan Handle depot were also set on fire and consumed. The firemen who hastened to the scene and attempted to extinguish the flames were met by armed men and driven back. At 12:30 Sunday morning a committee appointed by a citizen's meeting tried to open a consultation with the mob but were promptly driven away. The committee saw that those they had to do with were not dissatisfied railroad employees, but not only a mob of the vilest of the city's population, at whose mercy the entire property of the city was, but a mass of men drunken with unrestrained passions and continuous indulgence in the whisky and wines obtained from the plundered cars. It was a mob in its most complete form, there being neither organization or leader, but each man or party of men doing what the frenzy or chance for plunder for the moment suggested. Some of the original strikers having been found, they promised to attend a meeting of the citizens at four o'clock and arrange to aid in suppressing the incendiaryism, and they were as good as their word, showing, as before stated, that the railroad strikers were not of the mob and did not countenance the violence.

At this meeting the Mayor was authorized to enroll five hundred police, but the accounts of the day say that the ranks filled up slowly. In the earlier hours of the mob when the Mayor was first appealed to, although prompt in his endeavor to check the turbulence than which it was nothing else at that period, his efforts were retarded by the want of support he should have had from the police, which, not understanding the personal characteristics of the mob and permeated by a sympathy with the strikers, were backward in supporting the city authorities. The same sentiment among those from whom the extra police were expected made delay in their enrollment. The state of terror continued through all of Sunday night, and on Monday morning the mob still reigned supreme.

Throughout the thirty-six hours, from Saturday night until Monday morning, a most singular state of public mind developed here and there which seems like a moral epidemic. There was a most wholesale appropriation of goods from the burning cars by men and even women who would have at other times shuddered at so doing, and after the riot was suppressed goods were voluntarily, for some time returned by parties who had taken them unreflectingly, having recovered their moral perceptions, which had seemingly been clouded by the vicious atmosphere of the mob. This is mentioned because from first to last the whole affair seems to have been a carnival of mistakes and blunders, and there seemed to exist a sort of hallucination with certain classes of the population, that as long as it was only the railroad corporation that was being injured there was no great harm committed.

On Monday morning this, however, seemed to have been suddenly dissipated by posters, that had been, through the night, placed conspicuously throughout the city, on which was printed the law by which the citizens of Allegheny county were liable for all the damage done or arising from the mob. Although throughout this disgraceful occurrence the larger proportion of the citizens deplored its existence, a semi-apathy seemed to prevail, and through all the working classes a sympathy under the mistaken idea that it was a labor strike, which sympathy quickly disappeared when the true element of the mob was understood, and changed to hearty support of those engaged in suppressing it. On Monday morning, at eleven o'clock, a meeting of citizens was called to meet at the Chamber of Commerce, to form a Committee of Public Safety to take charge of the situation, as the city authorities, the Sheriff and the military seemed powerless. At this meeting the following Committee of Public Safety was appointed: William G. Johnston, chairman; John Moorhead, Paul Hacke, Ralph Bagaley, George Wilson, J. J. Gillespie, G. Schleiter, J. G. Weldon, George H. Thurston, James J. Donnell, James B. Haines, George A. Kelly, F. H. Eaton, J. E. Schwartz, Joseph Horne, William T. Dunn, R. G. Jones, Dr. McIntosh, Frank Bissell, John R. McCune, John M. Davis, John B. Jackson, R. C. Grey, Alex. Bradley, Capt. Samuel Harper.

On motion, Geo. H. Thurston, Geo. A. Kelly, John M. Davis, were appointed a committee to prepare an address to the public, and in a short time presented the following, which was adopted and ordered to be at once published:

"The Committee of Public Safety, appointed at the meeting of citizens, held at the Chamber of Commerce, July 23d, deeming that the allaying of excitement is the first step towards restoring order, would urge upon all citizens disposed to aid therein the necessity of pursuing their usual avocation, and keeping all their employees at work, and would, therefore, request that full compliance be accorded to this demand of the committee. The committee are impressed with the belief that the police force now being organized will be able to arrest and disperse all riotous assemblages, and that much of the danger of destruction to property has passed, and that an entire restoration of order will be established. The committee believe that the mass of industrious workmen of the city are on the side of law and order, and a number of the so-called strikers are already in the ranks of the defenders of the city, and it is quite probable that any further demonstration will proceed from thieves and similar classes of population, with whom our working classes have no affiliation and will not be found among them.

"It is to this end that the committee request that all classes of business should be prosecuted as usual, and our citizens refrain from congregating in the streets in crowds, so that the police of the city may not be confused in their efforts to arrest rioters, and the military be not restrained from prompt action, if necessary, from fear of injuring the innocent."

At this meeting Major T. Brent Swearingen was directed to take charge of organizing the citizens who might desire to form organizations for the protection of the city. A Vigilance Committee was also authorized to be formed under charge of General Negley and Major Swearingen, and establish headquarters at Lafayette Hall.

During the meeting much excitement was created by the announcement that 650 miners from Elizabeth were coming down the Monongahela on a boat, to join

the rioters and attempt the sack of the city. General Negley was dispatched with a body of old soldiers to meet them at lock No. 1. They did so, but found the miners were coming down to help suppress the mob instead of aiding the rioters.

On being assured that their aid was not needed, and being tendered the thanks of the Committee of Public Safety, they returned home. A committee, consisting of John Harper, President of the Bank of Pittsburgh; John R. McCune, President of the Union National Bank; John D. Scully, Cashier of the First National Bank; John A. Ricketson, and A. Groetzinger, President of the German National Bank, were appointed a Finance Committee to obtain funds for the payment of the expense that might be necessary in suppressing the riot and restoring order. The vigorous manner in which the committee took hold of their work caused, before the day was over, a feeling of confidence and awed the mob, and the succeeding night witnessed no renewal of outrages. On the succeeding day the following persons were added to the committee: Joseph Dilworth, William Frew, J. K. Morehead, General Fitzhugh, Frank Sellers, John McD. Crossan, A. E W. Painter, Harry Oliver, John H. Shoenberger, General J. B. Sweitzer, J. G. Siebeneck, Richard Smythe, Charles E. Speer, B. F. Jones, Simon Beymer, Mark W. Watson, Joseph S. Morrison, Samuel S. Brown, Thos. Fawcett, Hill Burgwin, James Little, James B. Reed, M. Swartzwelder, Henry Floyd, William Rea, Reuben Miller, Jr., T. B. Atterbury, A. F. Dalzell, S. S. Marvin.

While the mob had been so far restrained by the action of the committee, yet they were, although dispersed as a body, holding meetings, and sullen in their demeanor. The strike had spread to the Pittsburgh, Fort Wayne and Chicago Railroad, and its trains were for two or three days virtually stopped. In other sections of the country the railroad troubles were increasing and the committee thought best to call Major General Joe Brown and Colonel Guthrie, of the Eighteenth National Guards, into consultation. Under their advice a camp was formed of the military at East Liberty, to be held in readiness for any further outbreak. Mayor McCarthy enrolled five hundred extra police, and issued a proclamation in which he said, "I have determined that peace, order and quiet shall be restored to the community, and to this end call upon all good citizens to come forward at once to the old City Hall and unite with the police and military now organizing. I call upon all to continue quietly at their several places of business and refrain from participating in excited assemblages."

A proclamation had also been previously issued by Governor Hartranft, and he had come to Pittsburgh to address the rioters, and subsequently some two or three thousand troops were ordered by him to Pittsburgh, and were encamped near East Liberty for several days. Under these vigorous measures quiet was in a few days restored, and the railroad riots of Pittsburgh were a thing of the past, although the Committee of Public Safety continued to hold sessions and to take steps not only to prevent any further demonstrations, but to arrest and bring to punishment a number of the prominent rioters. The mistake of allowing a collection of thieves and similar vagabonds to assimilate themselves with a mere handful of

strikers and thus become the mob it did was the first error in the efforts to control the mob. The next was calling out the military before the civil authorities had exhausted their power, and the greatest of all was the bringing of the troops from the east.

Every step taken until the Committee of Public Safety took charge of affairs only tended to enrage the working classes, instead of quieting them to a point of reason. It gave demagogues and bad men the opportunity to play upon the passions of the masses, and what was a mere, in one sense, harmless strike of a few dissatisfied railroad employees, who intended no violence, became the terrible riot for which claims were made on Allegheny county for damages to the amount of \$4,100,000, which the Commissioners settled for \$2,772,349.53. Of this sum \$1,600,000 went to the Pennsylvania Railroad, whose claim for \$2,812,000 was settled for that sum. The public learned the danger of sympathizing with mobs to gratify feelings of private hostility; the county and city a lesson it will not care to have repeated.

In addition to the buildings already specified as burned, there were 1,383 freight cars, 104 locomotives and 66 passenger coaches destroyed. Twenty-five persons in all were killed.

CHAPTER VIII.

From 1878 to 1888.

From 1878 to 1888 the year that completes the hundred years of Allegheny county's organization a remarkable era of growth and prosperity has year with year accompanied the county's progress. Although labor strikes from time to time in that decade disturbed the smooth running of the manufactories, there was, in Allegheny county, no repetition of the notorious element of 1877. The disagreements between employee and employer being settled quietly and peacefully, by concessions and arbitration. The great riot of the employees at the coke manufactories occurring in another county is not part of the history of Allegheny county only so far as it relates to that portion of her business interests known as the coke trade, and as such finds its proper mention in the chapter illustrative of the growth of that business interest. The decade is one too close to the present day to be historically reviewed, and there are in it few occurrences of great public importance beyond those that belong to the growth of the industries of the county, and those are embraced in the chapters devoted thereto. From a commercial point of view the most important event of the decade was the introduction and general use of "Natural Gas" in the factories and households of the city and county. Of this and the entire enterprise in that direction the narrative is made in a subsequent chapter. In each decade of the county's history there is some one event,

which, while prominent over all others, seems to have had a permanent influence on its growth and business developments.

There is none, however, that has wrought such a complete transformation in the county's business characteristics nor one whose effect will probably be so national as the utilizing of natural gas by the people of Allegheny county. It has been pointed out in several instances in these pages how strikingly Allegheny county has been a pioneer in business enterprises, manufacturing advances and political movements, which have been national in their benefits or their effects, but there seems to be none which in its results will possibly create such national manufacturing changes and results as the adoption, as a fuel, of natural gas by the people of Allegheny county. Its adoption to all uses whether of the factory or the dwelling is too close to to-day to have yet risen to the attitude of history in its strictest sense, but in after years all that pertains to Allegheny county's pioneer enterprise therein will become a most interesting historical record.

Among the purely local public enterprises of the decade is the building of the magnificent Court House of which a fine engraving is one of the illustrations of this volume.

On Sunday morning, May 7th, 1882, the Court House, which had been constructed in 1838-40, by Coltart & Dilworth, was discovered to be on fire. As the records of the county were there and the building was not fire-proof in any of its departments, great excitement ensued. Fortunately, although the building was destroyed, the records were all saved. The building, of which an illustration accompanies this volume, while at the time of its erection considered, as it was, a handsome edifice, had, under the rapid growth of the county and its consequent, enormous increase of its documentary and other legal business, became so overcrowded in its departments, that it was insufficient for the accommodation of the various courts and the county officials. The question of a new Court House had already been discussed. Its burning, while a monetary loss, was therefore only hastening its replacement by a new building and resulted in the county of Allegheny possessing to day, what is claimed to be not only the best arranged Court House interiorly but externally, and architecturally the most beautiful edifice of its kind in the United States, and some claim in the world.

The sudden destruction of the building thus leaving the immense legal business of the county without shelter, threw an immediate and unforeseen duty and responsibility upon the County Commissioners then in office, R. E. Mercer, Geo. Y. McKee and Daniel McWilliams. The energy, business ability and official integrity with which they at once proceeded to rehabilitate the courts of law and the county authorities, deserves more than a passing record. For while the edifice will long remain a monument to the genius of the architect, the facts of its construction should, in this age of so much bargain and sale and official corruption true or charged, be a monument to the Commissioners under whom it was planned and built, without the taxpayers having been burdened with a heavy debt or a whisper of corruption in its contracts, although the sum expended has been so great and

the opportunities for what, in the political slang of the day is called "jobs," many. On the Monday morning after the fire the Commissioners at once began negotiations with the trustees for the purchase of the Western University building, and completed the purchase in June —, at a cost of \$80,000. Some of the courts immediately occupied it. The Commissioners proceeded without loss of time to improve it for the other courts and several of the county offices, and it was soon fully ready, including a complete system of heating at an expense of \$22,000. The building not being large enough for all the county business, they purchased the lot on George's alley and Old avenue, 75x115 for \$16,000, and erected a two story brick building at a cost of \$27,000, with fire-proof apartments for the prothonotary. The Commissioners having thus, in two months time, at a cost of \$123,000, provided substantially and comfortably for the entire legal business of the county, were ready to consider the question of erecting a new Court House.

During this time public opinion was active in discussing the question of the character and cost of the new edifice that must be ultimately erected. Some were for a magnificent and costly structure to cost \$5,000,000; others advocating one for less than half a million. Rich and poor, high and low, interviewed the Commissioners upon the subject and proffered their advice. The opportunity there was in the construction of the new Court House and Jail for corrupt contracts, or at least extortionate cost, brought the schemers, who live by much political plunder, thickly around. It was well for the county that its business was in the hands of a body of Commissioners whose high personal character, integrity and business ability were all their subsequent actions proved them to be. Forecasting from the immense increase in the business of the county for the last two or three decades what it would in all probability become, they saw that it would be but wasted money, by the time another decade or two had rolled by, to put up an ordinary building. To erect the edifice their judgment told them should be built was likely to cost a large sum of money, perhaps exceeding \$3,000,000, thus burdening the taxpayers with a heavy debt. These were serious questions to be debated and solved to the satisfaction of that severe task-master, the taxpayer, out of whose pockets the money must come, and likewise to their own conscientious conceptions of their official duty to the public. The wealth of Allegheny county demanded such an architectural edifice as should do honor to its prominence politically and commercially in the Nation, while duty to the taxpayers called for such expenditures as would avoid any increase of the tax millage or heavy bonded indebtedness.

That they might have formulated in their own minds the building they might or should erect, the Commissioners undertook to visit the principal cities east and west to make a study of the best modern public buildings, and thus thoroughly inform themselves of all their advantages or defects, and avoid, if possible, mistakes in construction. This they did, and were then prepared to consult the architects and receive plans and proposals for building. Before doing this the

Commissioners consulted all the county officials as to what each would need or desire as to room or wall space in their respective offices. A pamphlet was then prepared and mailed, with a circular letter, to a number of the principal home architects and those of other cities, asking them to furnish plans and estimates as to cost, also their own charges. To this circular many replies were received, and charges of architects varied from \$500 to \$30,000. It was then decided to select five of the architects replying to the circular, one of whom should be a resident of Allegheny county, two residents in the Eastern States and two in the Western. Mr. Post, of New York; Mr. Ord, of Philadelphia; Mr. Boynton, of Chicago; Mr. Meyer, of Detroit, and Mr. Peebles, of Pittsburgh, were selected. About this time an active interest sprung up among a number of the best citizens in favor of Mr. Richardson, of Boston, from whom no reply had been received to the circular sent him. Mr. Post, of New York, having declined the condition of the Commissioners that but \$2,500 would be paid to each architect for his plan, and that the plan should be the property of the Commissioners, and to be furnished by January 1st, 1884, Mr. Richardson was substituted in his place. The plans were submitted at the time specified, but only four were presented, Mr. Peebles having been prevented by circumstances from completing his.

The plans were placed on exhibition in the Welsh church on Ross street on January 1st, 1884, and the makers were present to explain them. Great interest was taken in the exhibition by all classes of citizens, many of whom, after several examinations of the drawings, visited the Commissioners and spoke in favor of the plans they preferred. The best civil and mechanical engineers, and most prominent manufacturers criticised the plans and gave their opinion as to the strength of the walls and other matters pertaining to the solidity, durability, architectural beauty, and adaptability of the edifice for the purposes for which it was intended.

Fully four fifths gave a preference to the plan of Mr. Richardson, the Commissioners being themselves unanimous in the same opinion. Their own judgment being thus indorsed by the decision of the most competent judges in Allegheny county, the Commissioners decided to accept Mr. Richardson's plans. On the 31st of January, 1884, after consultation with Charles Davis, the county engineer, as required by law, they employed Mr. Richardson, instructing him that the building when fully equipped, completed and furnished must not cost more than \$2,500,000, and the cost of the building itself must not exceed \$2,250,000. Previous to this, by which delay was caused in the commencement of the building, the Board of Prison Inspectors of Allegheny County deciding that the old Court House lot was not large enough for both Court House and a Jail such as the health as well as safety of criminals required, passed a resolution requesting the Commissioners to purchase the property on the east side of Ross street as a Jail lot. As it was possible under the circumstances that the price of the property might be extortionately raised on the Commissioners, they had, therefore, as a precaution, an Act of the legislature passed in 1883, that in its operation would pre-

vent extortion by the sellers of the property in question. After which the Commissioners proceeded to purchase from some 15 or 16 owners after much negotiation, at a cost of \$170,000, the ground on which the jail was built. Mr. Richardson furnished his working plans about July 1st, 1884. These plans were put in one of the Court rooms of the county building, and bids for construction to be submitted August 16th, 1884, were advertised for, for three weeks in the papers of New York, Boston, Philadelphia, and Chicago, and for two weeks in the official papers of Allegheny county. On August 18th the bids were opened, and referred to the County Controller and the County Engineer for examination, being as follows: Booth & Flinn, Worster granite, \$2,475,000, sand stoue, \$2,220,724; Frederick Gwinner, Mt. Desert granite, \$2,572,000; Butts & Schriner, Red Westerly granite, \$2,695,556; New England Granite Company, Fox Island granite, \$2,260,000, Red Westerly, \$2,350,000; Norcross Bros., Worster granite, \$2,198,000, Red Westerly, \$2,207,000; Red Missan, \$2,248,000, Red Beech, \$2,233,000, Goldsborough, \$2,234,000.

The Commissioners, as by their specifications were allowed to make certain addenda, which were named. When the bids were examined they concluded to adopt them. These additions increased the bid of Norcross Bros. \$45,000, making their bid, of \$2,198,000 for Worster granite, amount to \$2,243,000. The same items or addenda in the bids of the other competing parties increased the cost from \$50,000 to \$100,000 respectively.

On the first day of September the Commissioners called in the County Comptroller to consider in consultation with them the bids opened on August 18th. The bid of Norcross Bros. for \$2,243,024 was accepted, and on September 10th, 1884, the contract was signed.

The Norcross Bros. began their work almost immediately and the completed Court House and Jail was turned over to the Commissioners in April, 1888. The contractors would have completed their contract before the day required, which was in three years and six months from the date of its signing, but the Commissioners delayed the finishing of the tower from October to April by the advice of the architect, to allow the masonry to set.

The jail was ready for occupation in May of 1886, but the Commissioners in the interest of the health of the prisoners did not allow it to be occupied until September 1st, of 1886, so that it, being of stone, might be thoroughly dried. While the plans were being prepared the taxpayers were apprehensive that the building would be extravagantly constructed, and fearful of a large increase of tax rate, steps were taken by some of the heavy taxpayers to enjoin the Commissioners from proceeding with the plans decided on.

The Commissioners semi-officially assured the public that the increase of the bonded indebtedness of the county would not exceed \$1,200,000. On the 8th day of February, 1884, the Commissioners made a levy for all purposes of four mills on the county valuation of \$226,000,000, and one mill for a poor tax, which is only collected in the boroughs and townships. That levy was continued in 1885-

86 87-88, but only three-fourths of a mill was levied for poor tax in 1887, and none in 1888, as a surplus had accumulated, so that none was needed for poor purposes that year.

On September 7th, 1886, they made provision, in accordance with Act of Assembly, to issue \$1,500,000 of $3\frac{1}{2}$ per cent. twenty-year bonds, if necessary, and authorized the sale of \$500,000 of those bonds. They were sold, \$387,500 to the Dollar Savings Bank at par; \$100,000 at 2 per cent. premium, and the balance in small lots at from $\frac{3}{4}$ to 1 per cent. premium. On the 4th day of June the Commissioners agreed to issue \$300,000 twenty-year bonds bearing 4 per cent. interest. These were sold at a premium of 2 per cent. Thus the Commissioners had only increased the bonded indebtedness \$800,000, as against the \$1,200,000 they had semi-officially promised the taxpayers would be the limit to which the building of the magnificent Court House would increase the county's bonded indebtedness.

During the course of the construction of the Court House and Jail the Commissioners found the necessity of making twenty-six alterations. While some of them increased the original contract others decreased it, but the aggregate increase was but \$14,000. The plans for the furnishing and equipping of the Court House were conducted on a similar system and with the same conservative care as the building itself. There were a number of bids from eastern and western cities and home contractors. The contract was awarded to the Norcross Bros. for \$103,760.

The engraving accompanying this volume gives a pictorial idea of the exterior proportions of this building, but a personal inspection is required to obtain a full conception of its massive grandeur, architectural beauty, and its admirable interior arrangements and finish. It will come to be considered one of the famous buildings. The history of its building is thus given so fully that it shows a business ability not usually displayed by public officers, and an effort not only to guard the public money from the inroad of corrupt schemers, but at the same time in a broad, generous expenditure, give the county of Allegheny a public building commensurate with its wealth commercially, its manufacturing fame, its historical dignity and political importance. This the Commissioners have done, and accomplished in their difficult task the expenditure of a large sum of public money to the satisfaction of the entire public, without the tongue of political scandal having once dared to attribute "jobbery" or corruption in any form.

There is in the building 157,222 feet of foundation stone, 96,774 feet of iron pipe, 11,680 feet of brass pipe, 14,322,140 brick, 1,187,136 pounds of rolled iron beams, 87,346 feet of granite ashlar, 81,299 hollow brick, 260,651 feet of granite, 1,308,817 pounds of cast iron, 2,580,909 pounds of wrought iron, 617,198 tile in roof, 1,145,120 brick in floors, arched, 3,008 square feet copper gutters, 24,500 enameled brick, 16,500 squares of terre cotta partitions, 56,861 yards of plastering, 28,197 feet of plate glass, 8,795 feet of marble wainscoating, 38,464 feet of tile floor. These are some of the principal bulks comprising the building, and give some idea of its bulk.

The narrative tells of a community which has risen from a cluster of squalid bark cabins around a frontier garrison, and a few Indian traders, to the dignity, architectural and social elegance of one of the most important cities in the nation, with a population closely approaching half a million, having taxable property to the value of over \$300,000,000. It tells of a people founding on the frontier edge, ere the war whoop of the savage had ceased to echo amid its forests, the germs of manufacturing industries that have grown to be the dominant force in the manufacturing interests of the country, and held as a successful rival in respectful consideration by the oldest manufacturing nations of the earth. It tells of a community growing solidly, but slowly, adding year after year to its industries, increasing from decade to decade, in the magnitude of its immense business, until it ranks the eighth in the Union in its daily monetary transactions. It tells of a people rich in their educational facilities, their business enterprise, and mechanical skill. Wealthy in furnace, forge and mill, and a thousand factories, yet retaining the industrial habits of the forefathers of the country. It tells of a people loyal under all circumstances to the precepts of the constitution of the nation. Of a people who have through years of persistent toil demonstrated, by practical results, the necessity of protection to American labor, and thereby the enrichment of the country and the elevation of its workman, and a similar outgrowth from its Scotch-Irish settlers that New England has enjoyed from its Puritan pilgrims.

CHAPTER IX.

Boat Building in Allegheny County.

Allegheny county is more than historically connected in a general way with the history of steamboat building. Elizabeth is the point where was built, at the close of the eighteenth century, the first sea going vessel to navigate the western waters, and Pittsburgh as the place where the first practical steamboat was constructed. Where the first iron steamboat was built in the United States, and as building iron and steel ships and steamboats for the United States government and for navigating the rivers of some foreign countries, beside originating the form of steamboats that it was found advisable to adopt for the navigation of others.

To day there is no point that can rival Allegheny county in boat building, although from the increase of railway transportation and the neglect of the government to improve the navigation of the Ohio, its boat and ship building business has fallen off. Water highways are of all burden carriers the cheapest, and the increasing bulks of transportation will necessitate a return to them.

While Allegheny county claims the honor of being the place of construction and successful building of the first steamboat, it would seem from the following extract from a diary kept by one James Kenny, a Quaker trader at Fort Pitt in

1761; that Pittsburgh has some claims to being the place where the first germs of the idea of a steamboat originated, says the diary:

"1761, 4th mo: 4th.—A young man called Wm. Ramsey has made two little boats, being squair at ye sterns, and joined together at ye sterns by a swivel, make ye two in form of one boate, but will turn round shorter than a boat of ye same length or raise with more safety in falls and in case of striking rocks; he has also made an engine that goes with wheels enclosed in a box, to be worked by one man, by sitting on ye end of ye box, and tredding on treddlers at bottom with his feet, set ye wheels agoing, which work scullers or short paddles fixed over ye gunnels turning them round; ye under ones always laying hold in ye water, will make ye boate goe as if two men rowed; and he can steer at ye same time by lines like plow lines."

This statement as to Ramsey obtaining his idea from Fitch, is on authority of Hon. Robert Wickliffe, vol. 1, page 36, *American Pioneer*.

This was twenty-five years before either James Ramsey, of Berkley county, Virginia, succeeded in propelling his "*flying boat*," as it was called by the people, against the current of the Potomac at Shepherdstown, by steam alone, at the rate of four or five miles an hour; and also twenty years before Fitch, in 1780, accidentally meeting Ramsey in Winchester, imparted to him his idea of propelling boats by steam.

There is nothing more on record of the "young man called Wm. Ramsey," but the thought naturally occurs that if he had persevered with his idea, that Pittsburgh was very near to being the scene of the first attempts to construct a boat to be driven with machine power.

Where or when, however, the idea of a boat propelled by machine power or by steam originated, is quite uncertain,

From a work published about forty years since in Spain, of original papers relating to the voyage of Columbus, preserved in the royal archives at Samancas, and those of the Secretary of War of Spain, in 1543, it is stated, "that Blasco de Garay, a sea captain, exhibited to Charles V., in the year 1543, an engine by which vessels of the largest size could be propelled, even in a calm, without oars or sails. The Emperor decided that an experiment should be made, which was successfully attempted on June 17, 1543, in the harbor of Barcelona. The experiment was on a ship of 209 tons, called the 'Trinity.' Garay never publicly exposed the construction of his engine, but it was observed at the time of the experiment, that it consisted of a large cauldron of boiling water, and a movable wheel attached to each side of the ship."

From this statement it would appear that DeGaray not only originated the steam engine, but made at the same time its application in one of its most practical and beneficial forms, and at a single effort accomplished what took the light and talent of several generations to invent and bring to practical shape.

This statement, although based on the archives of Spain, and those of the Secretary of War of that Kingdom, are by some discredited, as the date is fifty-four years before the birth of the Marquis of Worcester who is given, by history, the credit of being the inventor of the steam engine. It might be said in rebuttal that

the incident just quoted of "de Garays" experiment possibly came in some way, to the Marquis' notice, and that he proceeded, after the manner of all inventors, to improve upon it. There is, also, a fact in history as to an early steamboat that might justify the idea that both Fitch and Fulton were not entirely original in their idea of a boat propelled by machinery moved by steam, presuming even that "de Garay's" exhibition in 1543 had not accidentally came to their knowledge.

A treatise was printed in London in 1737, describing a machine invented by Jonathan Hulls, for carrying vessels against wind and tide, for which George II. granted a patent for fourteen years. A drawing is prefixed to the treatise showing a boat with chimney smoking, a pair of wheels rigged over each side of the stern. From the stern of the boat a tow line passes to the foremast of a two decker, which the boat thus tows. This is evidently the first idea of a steam tow boat. As this was a published treatise, and there was a patent on record, public information must have circulated of a steamboat before the experiments of Fitch or Fulton or Stevens or Livingston, and while similarity of ideas in inventions, are not infrequent, absolute originality is difficult to establish.

James Ramsey, before mentioned, October, 1774, obtained from the legislature of Virginia an Act guaranteeing him the exclusive use of his invention in navigating the waters of that State for ten years. Ramsey went to England, and through many discouragements struggled on until he had constructed a boat of one hundred tons and so far completed his machinery as to indicate a day for public exhibition. He died suddenly before the day, while beginning the delivery of a lecture at Liverpool, England. The boat was set in motion on the Thames in 1793 and a fitting tribute paid to his memory by the Congress of the United States on February 9, 1839, when it unanimously voted his son a gold medal commemorative of his father's agency in giving the world the benefit of the steamboat.

In 1780 the Marquis de Jouffrey worked a steamboat 140 feet long on the Seine.

In 1785 both Ramsey and Fitch had exhibited models to Gen'l Washington, and on March 15, 1785, Washington, in a letter to Hugh Williamson, certifies that his doubts are satisfied, after witnessing Ramsey's experiment. Fitch made many efforts to have his invention tried. He applied to Congress and was refused, just as was nearly the fate of Morse with his telegraph. He offered his invention to the Spanish government, for the purpose of navigating the Mississippi, without better success; but at length obtained the funds for the building of a boat, and in 1788 his vessel was launched on the Delaware. Fitch used oars worked in frames. After many experiments, Fitch abandoned his invention, having satisfied himself of its practicability, being embarrassed with debt.

He died in 1799, at Bardstown, Kentucky, and was buried near the Ohio.

In 1787, after Fitch's experiment, a Mr. Symington succeeded in propelling a steamboat on the Clyde in Scotland. In 1797 John Stevens, of Hoboken, began his experiments, and succeeded in propelling boats at the rate of five or six miles an hour. In 1797 Chancellor Livingston built a boat on the Hudson, and applied to

the Legislature for the exclusive privilege. This was granted on condition that he should propel a vessel by steam, within a year, three miles an hour; but Livingston, unable to comply with this condition, dropped his project for a time. He afterwards associated himself with Stevens, and aided by Nicholas Roosevelt, carried on the experiments until he (Livingston) was sent to France as minister. Mr. Stevens continued his experiments for several years, when Mr. Livingston having attained a renewal of the exclusive grant from the State of New York, he, with the assistance of his son, applied himself with greater attention to the project, and in 1807, only a few days after Fulton's convincing experiment, succeeded in propelling a steamboat at the required velocity of three miles an hour. Fulton, it is said, had in 1803 made a successful trial on the Seine with a boat that moved at the rate of four miles an hour.

About 1802-3, Oliver Evans, of Philadelphia, built on the Mississippi a boat to ply between New Orleans and Natchez. When the boat was ready it was left high and dry by the falling water, and the engine was placed temporarily in a saw mill. The mill was burned by some incendiaries, whom it was likely to deprive of a profitable job of sawing lumber, and thus an attempt to establish steamboats on the Mississippi was defeated some four years before Fulton's experiment.

All these efforts seem to have been preliminary experiments; to Fulton and Roosevelt really belongs the credit of bringing to practical results the steamboat, in the construction in 1810-11, by himself, Livingston and Roosevelt, of the "New Orleans" at Pittsburgh.

This sketch of the gradual growth of the idea of a boat to be propelled by machinery worked by steam, while not of the actual history of Allegheny County, is so intimate in its connection with the history of boat building therein that it is interestingly preliminary thereto. The position that Pittsburgh occupies as the point where was constructed, and whence departed the first steamboat that navigated the western waters, giving her an historical prominence in connection with the invention of steamboats.

The 23d of February, 1777, is the date at which, it may fairly be said, commenced that important branch of the business of Pittsburgh—boat building. On that day "fourteen carpenters and sawyers arrived at Fort Pitt from Philadelphia, and were set at work on the Monongahela, fourteen miles above the fort, near a saw mill. They built thirty large batteaux, forty feet long, nine feet wide and thirty-two inches deep, which were intended to transport troops."

For a quarter of a century from this time the navigation of the western rivers was by the use of flat boats, keel boats and "broad horns," as they were called. These boats were all propelled by poles, or by sweeps, and the labor of the crews on the upward passage, somewhat relieved by aid of ropes, carried out the head, and attached to trees, by which the boats were "cordelled," or warped up stream where the current was very swift. The trips were long and tedious, and, for years, dangerous from the Indians, even as late as 1794, as the following extract from an advertisement of that date shows, which gives as well a glimpse of the method of travelling at that date:

The advertisement states: "Two boats for the present will start from *Cincinnati* for *Pittsburgh*, and return to *Cincinnati* in the following manner, viz: First boat will leave *Cincinnati* this morning at eight o'clock; and return to *Cincinnati*, so as to be ready to sail again in four weeks. The second boat will leave *Cincinnati* on Saturday, the 30th inst., and return to *Cincinnati* in four weeks as above. And so regularly, each boat performing the voyage to and from *Cincinnati* and *Pittsburgh*, once in every four weeks."

"No danger need be apprehended from the enemy, as every person on board will be under cover, made proof against rifle or musket balls, and convenient port holes for firing out of. Each of the boats is armed with six pieces, carrying a pound ball; also a number of good muskets, and amply supplied with plenty of ammunition, strongly manned with choice hands, and the masters of approved knowledge.

"A separate cabin from that designed for the men is partitioned off in each boat for accommodating ladies on their passage. Conveniences are constructed on board each boat so as to render landing unnecessary, as it might at times be attended with danger."

In July of the year 1794, on the 22d of April of which year *Pittsburgh* was incorporated as a borough, a line of mail boats was established to run from *Wheeling* to *Limetown*, and back, once in every two weeks, the mails being carried from *Wheeling* to *Pittsburgh*, and back, on horseback. These boats were twenty-four feet long, built like a whale-boat, and steered with a rudder. They were manned by a steersman and four oarsmen to each boat. The men had each a musket and a supply of ammunition, all of which were snugly secured from the weather in boxes alongside their seats.

The building of the armed galleys, "President Adams" and "Senator Ross," in 1798, at *Pittsburgh*, is the next progressive fact in boat-building in Allegheny county. They were intended for service against the Spaniards on the lower Mississippi, and are mentioned in letters of that date as fine specimens of naval architecture. Of their subsequent service, or their final disposition, nothing is recorded. These national vessels, and a brig of 120 tons, built at *Marietta* by Commodore Preble in 1798-9, one of the first sea-going vessels constructed on the Ohio. From 1801 to 1805 the building of sea-going craft was active at *Pittsburgh*.

The building of sea-going vessels was established at *Pittsburgh* by a French gentleman, Louis Anastasius Tarascon, who emigrated from France in 1794, established himself in Philadelphia as a merchant. In 1799 he sent two of his clerks, Charles Brugiere and James Berthoud, to examine the course of the Ohio and Mississippi from *Pittsburgh* to New Orleans, and ascertain the practicability of sending ships, and clearing them ready rigged, from *Pittsburgh* to Europe and the West Indies. The two gentlemen reported favorably, and Mr. Tarascon associated them, and his brother, John Anthony, with himself, under the firm of "John A. Tarascon Brothers, James Berthoud & Co." and immediately established at *Pittsburgh* a large wholesale and retail store and warehouse, a ship yard, a rigging and sail loft, and anchor smithshop, a block manufactory, and all other things necessary to complete sea-going vessels. The first year, 1801, they built the schooner *Amity*, of 120 tons, and the ship *Pittsburgh* of 250 tons, and sent the former, loaded with

flour, to St. Thomas, and the other, also loaded with flour, to Philadelphia, from whence they sent them to Bordeaux, France, and brought back a cargo of wine, brandy and other French goods, part of which they sent to Pittsburgh in wagons at a carriage of from six to eight cents a pound. In 1802 they built the brig Nanina, 250 tons; in 1803 the ship Louisiana of 300 tons, and in 1804 the ship Western Trader of 400 tons. The schooner Monongahela Farmer was built at Elizabeth, by a company of ship carpenters, who were brought out in 1787, from Philadelphia, by Colonel Stephen Bayard. She was owned by the builders and farmers of the neighborhood, who loaded her with a cargo of flour, and sent her via New Orleans to New York. The brig Ann Jane was built in 1803, at Elizabeth, for the Messrs. McFarlane, merchants, and was of 450 tons burden. She was loaded with flour and whisky, and sailed to New York. This brig was one of the fastest sailers of her day, and was run for some time as a packet to New Orleans from New York.

The year 1811 was an important one in the history of Allegheny county. In that year was built the first steamboat for the navigation of the western waters.

This boat, called the New Orleans, was built at Pittsburgh in 1811. The location where she was constructed being at Suke's run, at or about where the Pittsburgh, St. Louis & Cincinnati railroad bridge crosses the Monongahela. She was 138 feet keel, and between 300 and 400 tons burden; her cabin was in the hold, and she had port holes; also a bowsprit eight feet in length, in ocean steamer style, which was painted sky blue. She was owned by Messrs. Fulton, Livingston and Roosevelt, and her construction was superintended by the latter gentleman. Her cost was \$40,000. She was launched in March, and descended the river to Natchez, in December, at which point she took in her first freight and passengers, and from thence proceeded to New Orleans on the 24th of the same month. She continued to ply between New Orleans and Natchez until 1814, making the round trip in ten days, conveying passengers at the rate of \$25 up and \$18 down. On her first year's business she cleared \$20,000 net. In the winter of 1814 she was snagged and lost at Baton Rouge.

The formation of the company to build steamboats is thus mentioned in Cramer's *Almanack*, of 1810:

"A company has been formed for the purpose of navigating the river Ohio in large boats, to be propelled by the power of steam engines. The boat now on the stocks is 138 feet keel, and calculated for a freight as well as a passage boat between Pittsburgh and the Falls of the Ohio."

The boat here alluded to was the one afterwards known as the "New Orleans."

In the first years of steamboat building the progress was slow. While Roosevelt and Fulton had succeeded in the constructing the first practical "steamer," yet there were many difficulties to be overcome in the perfect adaptation of steam-boats to the varying currents, rapids, shoals, floods and low waters of the western waters. The growth of boat building at Pittsburgh was, however, inevitable. However, energy and artificial means may ultimately enable an industry to be established at any chosen point, the force of natural advantages is at all times the

greatest factor. Those in Allegheny county have always been so powerful that they have at all times placed it first and foremost in all the manufacturing industries in which its population have engaged.

While proximity of suitable material for the complete construction of ships or steamboats is a factor to success therein, yet primarily is the existence of navigable waters into which they can be launched and navigated to their destined point of delivery. This a force of nature of which Pittsburgh is in full possession.

The hydraulic factor just quoted was in the years when steamboat building was inaugurated at Pittsburgh of far greater force than now, from the absence of the yet immaterialized transportation power of the railroad, although that was predicted by Fulton when coming to Pittsburgh to arrange for the building of the "New Orleans."

In the course of some conversation on the almost impassable nature of the mountains over which they were dragged with great toil, he said: "The day will come, gentlemen, I may not live to see it, but some of you who are younger probably will, when carriages will be drawn over these mountains by steam engines, at a rate more rapid than that of a stage coach upon the smoothest turnpike." The then apparently absurdness of this prediction excited great laughter.

The successful result of "Fulton's steamboat" at once gave new value to the eighteen thousand miles of river navigation, continuous, from Pittsburgh, and the abundance of fine timber and other requirements for boat building at that point made it beyond any competition the ship yard of the western rivers.

For all the success of the "New Orleans" and the boats that immediately succeeded her, the practicability of the navigation of the Ohio by steamboat was doubled.

A writer in the *Western Monthly Magazine* states that, in 1816, he formed one of a company of gentlemen who, watching the long continued efforts of a stern-wheel boat to ascend the Horsetail ripple, five miles below Pittsburgh, came to the unanimous conclusion that such "*a contrivance* might do for the Mississippi as high as Natchez, but that "we of the Ohio must wait for some more happy century of inventions."

While it would not be possible to give in the scope of this volume a history of the careers of the various boats built in Allegheny county, yet a brief notation of a few of the earlier boats is indulged in.

The second boat constructed at Pittsburgh appears to have been the "Comet," of twenty-five tons, built by D. French, for Samuel Smith, in 1812-13. She had a stern wheel and a vibrating cylinder. She made one trip to Louisville in 1813; descended to New Orleans in 1814, made two trips to Natchez, and was sold and the engine put up in a cotton-gin.

The "Vesuvius" and the "Ætna," of 340 tons each, were built by the "Mississippi Steam Boat Co." in 1813-14. The "Vesuvius," under the command of Captain Ogden, left Pittsburgh, in the spring of 1814 for New Orleans; in July, 1816, she was burnt near New Orleans. The "Ætna," under command of Captain Gale,

started for New Orleans in March, 1815; and after reaching that point went into the Natchez trade. She was in continual employ until 1822, when she was condemned as worn out.

The "Enterprise," forty-five tons, was the fourth constructed in this vicinity. She was built at Brownsville, Pa., and made two trips to Louisville in 1814. She departed from Pittsburgh for New Orleans on the 1st of December, 1814, under command of Captain Henry M. Shreve, with a cargo of ordinance. For some time she was actively employed transporting troops. On the 6th of May, 1817, she left New Orleans for Pittsburgh, and arrived at Shippingport (Louisville) on the 30th, being twenty-five days from port to port, and the first steamer that ever arrived at that port from New Orleans; which event the citizens of Louisville celebrated by a dinner to Captain Shreve. The "Enterprise" was lost at Rock Harbor in 1817.

In 1816 the "Franklin," 125 tons, the "Oliver Evans," 75 tons, and the "Harriet," of 40 tons, were built at Pittsburgh. The "Franklin" was built by Messrs. Shiras and Cromwell, and her engine was built by George Evans. She departed from Pittsburgh in December, 1816, and went into the Louisville and St. Louis trade. She was sunk in 1819, near St. Genevieve. The "Oliver Evans" was built by George Evans; left Pittsburgh December, 1816, for New Orleans. She burst one of her boilers in April, 1817, at Point Coupee, killing eleven men. The "Harriet" was constructed and owned by Mr. Armstrong, of Williamsport, Pa.

The "Washington," 400 tons was built at Wheeling about this time, had her engines made at Brownsville. She was the first boat with boilers above deck—the boats previous to that having them in the hold. She, also, by making a round trip from Louisville to New Orleans, settled the question whether steamboats could be rendered useful as a mode of navigation for the ascending trade, and convinced the public, which had continued doubtful, of the practicability and success of steamboat navigation on the western waters. She was in part owned by Captain Henry M. Shreve, and was built under his immediate direction.

A small boat called the "Pike" was built at Hendersonville, Kentucky, in 1816.

The "General Pike," constructed at Cincinnati in 1818, was the first boat built for the exclusive accommodation of passengers. Her cabin was forty feet long and twenty-five feet wide. In addition she had fourteen staterooms.

The "Expedition," 120 tons, and the "Independent," of 50 tons, were constructed at Pittsburgh in 1818 for the Yellowstone expedition for the exploration of the Missouri. The "Independence" was the first steamboat that ascended the Missouri.

The "Western Engineer," built in 1819, near Pittsburgh, under the direction of Major S. H. Long, of the United States Topographical Engineers, for the expedition of discovery to the sources of the Missouri and Rocky Mountains, was the first boat that ascended to Council Bluffs, 650 miles above St. Louis.

From 1817, when the success of steamboat navigation on the western rivers was finally conceded by the public—convinced by the trips of the Washington

from Louisville to New Orleans and back in forty-five days—boat building rapidly increased.

The following gives the boats constructed at Pittsburgh and vicinity from 1811 to 1835. There were two hundred and twenty-six steamboats built. The table gives the names of one hundred and ninety-seven :

- 1811.—New Orleans.
1812.—Comet.
1814.—Ætna, Buffalo, Vesuvius.
1816.—James Monroe.
1817.—Franklin, Geo. Madison, Gen. Jackson.
1818.—Allegheny, Expedition, Independence, James Ross, St. Louis, Tamerville, Thos. Jefferson.
1819.—Balise Packet, Car of Commerce, Cumberland, Dolphin, Olive Branch, Rapids, Telegraph.
1822.—Favorite, Gen. Neville.
1823.—Eclipse, Phœnix, Pittsburgh & St. Louis Packet, Pittsburgh, Pennsylvania, Rambler.
1824.—American, Herald, President.
1825.—Bolivar, Friendship, Gen. Brown, Gen. Wayne, Gen. Scott, LaFayette, Paul Jones, Pocahontas, William Penn.
1826.—America, Columbus, Commerce, DeWitt Clinton, Echo, Erie, Florida, Fame, Gen. Coffee, Hercules, Illinois, Jubilee, Liberator, Lady Washington, Messenger, New York.
1827.—Essex, Maryland, New Pennsylvania, Pennsylvania, Shamrock, Shepherdess, William D. Duncan.
1828.—Baltimore, Cumberland, Caroline, Delaware, James O'Hara, Missouri, Neptune, North America, Powhattan, Phœnix, Plaquemine, Red Rover, Star, Stranger, Talisman.
1829.—Citizen, Cora, Corsair, Huron, Home, Huntsman, Hudson, Hatchee, Herald, Industry, Kentuckian, Lark, Monhican, Monticello, Nile, Packet, Red Rover, Ruhama, Talma, Trenton, Tallyho, Tariff, Uncle Sam, Uncas, Victory.
1830.—Allegheny, Abeona, Enterprise, Eagle, Gondola, Gleaner, Mobile, New Jersey, Ohio, Olive, Peruvian, Sam Patch.
1831.—Argus, Antelope, Boston, Baltic, Carrollton, Columbus, Courier, Choctaw, Dove, Henry Clay, Louisville, Mohawk, Napoleon, Pittsburgh, Planter, Scout, Woodsman.
1832.—Chief Justice Marshall, Chester, Chicasaw, Despatch, Free Trader, Fame, Gazelle, Juniata, Lancaster, Mediterranean, Missourian, Mobile Farmer, New Brunswick, Nimrod, Return, Sangamon, Transport, Western Engineer, Warrior.
1833.—Boon's Lick, Cayuga, Farmer, John Nelson, Miner, Majestic, Moque, Minerva, O'Connell, Ohioan, Privateer, Van Buren.
1834.—Aid, Commerce, Claiborne, Galiman, Huntress, Hunter, Ivanhoe, Protector, Potosi, Plough Boy.

1835.—Alert, Algonquin, Arabian, Adventure, Big Black, Detroit, Dover, Dayton, Flora, Marion, Madison, Pawnee, Pioneer, Robert Morris, Rover, Siam, Selima, Tempest, Tuskinda.

In 1836 there were sixty-one steamboats built at Pittsburgh and vicinity, making one hundred and ninety-seven boats built in the period embraced in the table. There were built at Brownsville in the same period, twenty-two, and at Beaver, seven. In that year the Alton, Asia, Amite, Boonville, Bee, Brighton, Boguehoma, Baltimore, Columbiana, Chamois, C. L. Bass, Camden, Corinthian, Emerald, Eutaw, Florida, General Wayne, Gipsey, Grand Gulph, George A. Bayard, Georgia, Huntsville, Havana, Howard, Harkaway, Kentucky, Kansas, Lilly, Loyal Hannah, London, Louisville, Mobile, Massillon, Nick Biddle, Newark, New Beaver, New Lisbon, Ontario, Oceola, Palmyra, Pavillion, Prairie, Paris, Quincy, Robt. Morris, Rienzi, Salem, Sandusky, Savannah, St. Peters, Steubenville Packet, St. Louis, Troy, Tremont, United States, Vandalia, Vermont, Wabash, Warren, Wm. Wirt, Wm. Hurlburt, were built.

From 1836 to 1857 there were constructed at Pittsburgh and vicinity :

1837.—Avalanch, Ariel, Asia, Albany, Alligator, Beaver, Buffalo Belle, Brighton, Burlington, Constellation, Ceylon, Canton, Camden, Cuba, Corinthian, Coquette, Columbia, Chillicothe, Casket, Comanche, Dolphin, Detroit, Eutaw, Embassy, Emperor, Fremont, Fox, Fallston, Fayette, Florence, Frances, Favorite, Georgia, Girard, Hunter, Huntress, H. L. Kinney, Irene, Itasca, Isabella, John, Mills, Kentucky, Liberty, Lady Marshall, Lily, Little Red, Liverpool, Loyalhanna, Louisville, Moravian, Mountaineer, Maryland, Monroe, Merrimack, Massillon, Muscogee, New Castle, New Lisbon, Niagara, Othello, Oronoko, Philadelphia, Patrick Henry, Peru, Putnam, Pittsburgh, Pulaski, Pirate, Pennsylvania, Paris, Rufus, Rolla, Rochester, Rodney, Roanoke, Susquehanna, Savana, Shannon, St. Louis, Salem, Steubenville, Salem, Troy, Tennessee, Troubadour, Virginia, Victoria, Vermont, Wellsville, Wacousta.

1838.—Arabian, Delaware, Express, Flora, Favorite, Gratiott, Havanna, Julia, Lady of the Lake, Ocnee, Pioneer, Rhine, Thames, Trident.

1839.—Albert, Boston, Excel, Fulton, Gallatin, Ione, Kittanning, Meteor, Pauline, Zanesville.

1840.—Algonquin, Massachusetts.

From 1837 to 1841, the records were destroyed by fire, so that the list between those dates is incomplete.

1841.—Adelaide, Augusta, Allegheny, Cecila, Coaster, Clairon, Duquesne, Forrest, Gallant, Gen. Brady, Galena, Glide, Herchel, Iola, Iaazk Walton, Junata, John H. Bills, Leander, Mentor, Meridan, Montezuma, Marietta, Maine, Messenger, Marion, Mungo Park, May Flower, New Haven, North Bend, Orpheus, Orphan Boy, Ohio, Ranger, Raritan, Traveler, Two Pollies, Utica, West Point, Warren.

1842.—Allegheny, Alps, Alpine, Auburn, Brunette, Belmont, Belle, Brilliant, Ridge Water, Belle of Red River, Ben Rush, Cicero, Columbus, Collier, Cleav-

land, Dresden, Eveline, Expert, Emma, Empire, Importer, Ida, Isaphena, Edwin Hickman, Highland, Hope, Jas. Ross, Lebanon, Little Stewart, Lehigh, Lighter, Lancaster, Moxahala, Marquette, MacIntyre, Michigan, Minstrel, Muskingum, Mingo Chief, North Queen, New York, Orleans, Oella, Osprey, Pinta, Penelope, Panama, R. Clayton, Rambler, Saratoga, Sciota Valley, Vigilance.

1843.—Belfast, Clipper, Charleston, Champion, Columbiana, Eldorado, Etna, Guide, Herald, Little Rock, Lexington, Missouri, Mail, Muscle, Majestic, Olive Branch, Ohio Mail, Rose of Sharon, Sarah, St. Charles, Tobacco Plant, Urilda, Vista, Weston, White Cloud, Wing and Wing.

1844.—Allegheny Mail, Alliquippa, Atlas, Amulet, Archer, American, Arrow, Brunswick, Big Hatchee, Capital, Consul, Clinton, Domain, Franklin, Fair Play, Frelinghuysen, Falcon, Gen. Markle, Hibernia, H. Kenny, Iron City, Independence, Josephine, J. N. White, Lewis F. Linn, Medium, Mountaineer, May Duke, Messenger, North America, National, New England, Native, Planet, Palestine, Plymouth, Revenue Cutter, Revenue, Rhode Island, Sam Seary, Sligo, Tobby, Tiger, Uncle, Wapello, Wilmington, Whitesville, Wabash Valley, Wash, White Wing.

1845.—Atlas, Arcadia, Boreas No. 2, Belle of Illinois, Circassian, Cambria, Columbia, Commerce, Confidence, Defiance, Domain, Emily, Financier, Harlem, Hunter, Hatchee, Hill, Lake Erie, Louis McLain, Laura, Laurene, Motive, Milwaukee, Miner, Monongahela, May Queen, Nebraska, North Carolina, Newark, New Hampshire, Paytona, Prairie Bird, Pink Pilot, Planter, Rockaway, Robert Morris, Regina, Susquehanna, Triumph, Tributary, Union, Uncle Ben, Wista, Wisconsin, Walter Forward.

1846.—Billow, Cyrus, Chamberlin, Colorado, Dominion, John I. Hardin, South America, Wakendah.

1847.—Anson Moore, American Eagle, Anglo Saxon, America, Avalanche, Arrow No. 2, Arrowline, Alert, Alton, American Star, Allen Glover, Boreas No. 2, Boston, Beaver, Belle of Pittsburgh, Buxa, Buena Vista, Brady, Bridgeport, Caleb Coke, Camden, Caroline, Cinderella, Comet, Caroline No. 2, Col. Yell, Cashier, Col. S. W. Black, Clipper No. 2, Chieftain, Dover, Danube, Deer Creek, Dispatch, Dewitt Clinton, Dubuque, Diadem, Declaration, Eureka, Fairmont, Freedom, Friendship, Gen. Scott, Gen. Work, Germantown, Genessee, Gladiator, Gen. Jessup, Hibernia No. 2, Hudson, Homshitts, Highlander, I. I. Crittenden, Iron City, Jewess, Juniata, No. 2, John Foster, Judge Mitchell, James No. 2, Liberty, Loyalhanna, Lady Byron No. 2, Lewis Wetzell, Muzza Buxa, Marlatt, Richardson, Monterey, Mt. Vernon, Michigan No. 2, Mary Ann, North River, New England No. 2, Niagara, Nashville, Star, Old Tom, O'Hush, Oregon, Oswego, Oneeta, Pilot No. 2, Palo Alto, Pacific, Pelican, Robert McDonald, Reville, Rio Grand, Rambler No. 2, Rough and Ready, Return, Roscoe, Ringgold, Rowena, Rockaway, Sun Beam, Schuylkill, St. Anthony, Shipper, Swan, S. B. Magnet, Savannah, Trenton, Talisman, W. J. Kountz, W. W. Marlatt, W. P. Martin, Wellsville No. 2, Wellsville, Yankee, Umpire, Union.

1848.—Alice, Alert No. 2, Alavia, Andrew Fulton, Atlanta, A. Mason, Ariadne, American Eagle, Allegheny Clipper, American, Baltic, Brilliant, Bedford, Brajos, Blue Wing, Chief Justice, Cumberland, Connecticut, Carrier, Columbian, Com. Perry, Columbian No. 2, Charles Carroll, Dolphin, Dolphin No. 2, Eureka, Euphrates, Farmer, Financier, Forest, Fort Pitt, Fashion, Gondolier, Grand Turk, Green Wood, Geneva, Gen. Green, Gen. De Kalb, Hope No. 2, Hail Columbia, Hudson No. 2, Isaac Newton, Ionia, I. S. Porter, Ivanhoe, Jacob Poe, James Nelson, Josephine, John Carver, John O. Adams, John B. Gordon, Jack Ogle, Jacob Vaughan, Z. Taylor No. 2, Kit Carson, Lamartine, Lewis Wetzel No. 2, Mona, Marshall, Northern Light, Nominee, Newton, Oriental, Paris, Paxtona, Palmetto, Penn, Planter, Peter Miller, Robert Wightman, Roxanna, Rebecca, Shenandoah, Sam Miner, Sam Fowler, Sago, Tuscarora, W. Williams, Washington, W. A. Violet, Wave No. 2, Waggoner, Wave, Wyoming, Western World, Virginia, Visitor, Venezuela, Vermont.

1849.—Andrew Miller, A. G. Mason, Anna, Amazonia, Ben West, Boston, Charles W. Brown, Columbiana No. 2, Cinderella No. 2, Eclipse, Exchange, Empire, Euphrates No. 2, Enterprise, Farmer, Fashion No. 2, Globe, Glauces, Gen. Garner, Grand Turk, Globe, Hope, Hamburg, H. Campbell, Hancock, Iron City, I. L. McLean, John B. Gordon No. 2, Joe Vandergift, James Milligan, James Gormly, James Bayne, Keniesy, Kentucky, Lowell, Lydia Collins, May Flower, Monsoon, Miunesota, Mary, Mary McKenney, Pittsburgh, Philip Dodderidge, Olive, Osceola, Ohio, Ohio No. 2, Revuelle, State, Shipper, San Francisco, St. Francis, Samuel Milliken, Tennessee, Tempest, Wm. Phillips, W. J. Kountz, Wm. Conly, Wm. Worth, Wymiton, West Newton, Virginia.

1850.—Freeman, Rawdon, Fashion No. 2, Grampers, Gossamer, Hungarian, Hope, No. 2, Hindoo, Julia Dean, John McKee, Keystone State, Kate Fleming, Luella, Motta Lincoln, Milton, Martin Hoffman, Magnolia, Messenger, Ferry Boat, Navigation, New Boston, Pacific, Paul Anderson, Retrieve, Robert Rogers, Republic, R. H. Lindsey, Rockaway No. 2, Sarrannack No. 2, Starr, S. F. Vinton, Summit, Tempest, Thos. Scott, Umpire No. 2, Thos. Shriver, Union, Yough-iogheny, Washington, Jefferson.

1851.—Ambassador, Aleonia, Black Diamond, Banner State, Ben Coursin, Cashier, Cataract, Corn Planter, Colbert, Cumberland No. 2, Cornelia, Compromise, C. Hays, Clara, Caspian, Elephant, Editor, Elk, Excel, Elvina, Express, Franklin, Forest City, Falcon, Globe, Gov. Meigs, Gossamer, Georgia, Hindoo, Heroine, Huron, Juniata No. 2, J. M. Harris, Jane Franklin, Justice, Kate, Lake Erie No. 2, Malta, Mat Johnston, Redstone, Magnet, Milton, Ranger No. 2, Molly Grath, Navigator, Obion, Regulator, Ruby, Swamp Fox, R. M. Patton, Statesman, Salem, Trenton, Stephen Bayard, Venture, Winchester.

1852.—Alabama, Arctic, America, Alliance, Active, B. B. Barker, Buckeye Belle, Badger State, Ben Campbell, Bedford, Belle Quigley, Calm, Cleopatra, City of Huntsville, Col. Bayard, Dan Convers, Envoy, Empress, Eagle, Equinox, Fanny Malone, Frank Keeling, Forest Rose, Fulton, Granite State, Gaudalupe,

Golden State, Georgetown, Honduras, Helen Mar, H. T. Yeatman, J. Jinkins, Justice, J. B. Gordon No. 2, John McKee, Jennie Deans, John Simonds, James Watt, Juniata No. 2, Jefferson, St. Clair, John Strader, John McFadden, Keystone State, Keys'one, Lunette, Luzerne, Loudon, Liberty No. 2, Lake Erie No. 2, Major Adrian, Monticello, Manchester, Persia, Paul Anderson, Raven, Prairie City, Return, Statesman, Troy, Thos. P. Ray, U. S. Mail, York State.

1853.—Australia, Adelia, Alice, Alvin Adams, Alida, Altoona, Augusta, Admiral, Argyle, Advance, A. Mason, Ben Bolt, Crystal Palace, Col. Morgan, Cheviot, Caroline, Clara Dean, Cuba, Castle Garden, Eclipse of Texas, F. X. Aubrey, Fanny Fern, Garden City, Golden State, Henrietta, Hurricane, John Herron, James Lyon, Jean Webre, James Park, Look Out, Latrobe, Michigan, Magnolia, Montauk, Mary L. Dougherty, Oakland, Oswichee, Quaker City, Ranger No. 2, Tampa, Sam Snowden, Tornado, South Carolina, Time and Tide, Tropic, Unicorn, Vienna, Young America, Yorktown.

1854.—Americus, Alexander Wilson, Alhambra, Alert, Allegheny, Aquilo, Advance, Ben Franklin, Belle Golding, Belle of Pittsburgh, Billow, Brazil, Bay City, Challenge, Convoy, Cherubusco, City of Knoxville, Conewago, Chicago, Captain Luce, Ella, Edinburgh, Endeavor, Empire, Evansville, Empire City, Delegate, D. Lynch, Gazelle, Forester, Fairfield, Fairy Queen, Gray Cloud, Genoa, George Albree, Great Western, Grand Turk, Gen. Larimer, Hercules, Hunter, Hero, Hornet, Hawk Eye, John Buck, J. Lazear, John Wolf, Jr., Illinois Belle, Justice, Jeanette, Jack Ogle, J. H. Done, John C. Fremont, John S. Pringle, Kate Cassel, Liberty No. 2, Lundy's Lane, Monongahela Belle, Minnesota Belle, Mary Anne, Martha Anderson, Minerva, Nebraska, Orphan Boy, O. R. Coe, Ocean Wave, Philadelphia, Parthenia, Progress, Princeton, Prairie Rose, Rescue, Rosalie, Ranchero, San Antonio, Sultan, South America, Sea Gull, Shingiss, Swallow, Two Brothers, Tigress, Tropic, W. A. Eaves, Wm. Rogers, Winifrede, Wm. Bagaley, Zebra.

1855.—Alma, Alex. Wilson, A. G. Mason, Aunt Letty, Aquila, Atlantic, Allegheny, Brothers, Brown Dick, Brilliant, Captain Hazlett, Charlie Farwell, Clifton, Delegate, Defender, Eolian, Emma Graham, Emma, Eunice, Eliza, Freedom, Fanny Harris, Fairy, Falls City, Flora Fashion, Fred Lorenz, Great West, Gipsy, Grapeshot, Gold Hunter, Gibralter, Gen. Larimer, Henry Blake, Hays, Hornet, Harriett, Henry Graff, Hetty, Home, Jennie Davis, Juniata No. 3, Jefferson, J. B. Carson, Joe Torrence, J. Lowry No. 1, Kentucky Home, Lebanon, Lucy May, Liberty No. 2, Laclede, Lewis Barnes, Laura, Monongahela, Morgan Mason, Muscatine, Mary Ann, Missouri, Mahala, May, Minerva, Merango, Messenger, North Star, Paul Jones, Philadelphia, Progress, Prairie City, Princeton, Rochester, Rosalie, Reliance, Red Fox, Rescue, R. P. Voorhis, R. F. Sass, St. Clair, Sunbeam, Swallow, Silver Wave, Superb, Saucy Jack, Sam Young, Star of the West, Sovereign, Shenango, St. Lawrence, Tribune, Tigress, Wm. Baird, Wm. H. Denny, Wenona, W. J. Walter, Wm. Wallace, Yorktown.

1856.—Alligator, Arcola, Argonaut, Argo, Arkansas, Apleton Belle, Adriatic, Boone, Belmont, B. I. Smith, Cambridge, Chas. Avery, Cabinet, Clara Hine, Capt. Mark Sterling, Cremona, Commerce, Cora, Chevalier, Coal Hill, Chicago, Chas. Avery, Dick Evans, Dunleith, Denmark, Dick Gray, Energy, Era, Echnonia, Fire Fly, Gen. Scott, Gray Eagle, Great Western, Grenada Belle, Gen. G. Washington, Gold Hunter, Grampus No. 2, Hunter, Hartford City, Hanibal, Hibernia, Harmonia, Hiawatha, James Wood, John S. Pringle, James Wilson, Jennie Davis, J. M. Convers, James Park, James Raymond, Jos. S. Conn, Island City, Jedd^o, Iowa, Lake Champlain, Lacrosse, Lightfoot, Lizzie Bay, Lucy, Lake Erie No. 2, Metropolis, Melnotte, Medora, Morning Star, Metropolitan, Moderator, Melrose, Muscle, Marmer, Monongahela, Orphan Boy, Nathaniel Holmes, Prima Donna, Pittsburgh Glass Trader, Rocket, R. F. Lass, Resolute, Red Wing, Stillwater, Samuel P. Hibberd, Sir Wm. Wallace, Storm, Sligo, Tom Jones, Tom Brierly, Thos. Scott, Talisman, Telegraph, Time, Variety, Virginia Belle, Vixen, W. I. Maclay, W. B. Terry, W. M. Porter, Yankee Notions.

1857.—Atkinson, Anglo Saxon, Alps, Acacia Cottage, Advance, A. McCarty, Brady, Aurora, Banner, Boon, Charley Bowen, Columbus, Celeste, Cremona, Commodore Perry, City of Memphis, Chippewa, Council Bluff, Chippewa Falls, Charlie Watson, Cheviot, Col. S. H. Judson, D. W. Martin, Dan Pollard, Dr. Kane, Decalion, D. D. Dickey, Decota, Diamond, Daniel Bushnell, Dew Drop, Dick Fulton, Eau Claire, Endor, E. K. Kane, Economy, E. M. Ryland, Era No. 2, Eagle, Florence, Fred Loven, Francis, Fortune, Fame, Fulton City, Fort Wayne, George Boyce, Goody Friends, Geo. C. Veach, G. H. Wilson, G. D. Bates, Glenwood, G. N. Abbey, Greensboro, Grey Fox, Hastings, Harmonia, Henry Clay, Hazel Dell, J. W. Hailman, Isadore, Isaac Halford, J. Barnett, John Flack, James Plunkett, Jennie Grey, Jennie Whipple, Judge McClure, Indian, J. L. Hyatt, Key West, Lady Washington, Lady Elgin, Lizzie Lynch, Little Dorrit, Lizzie Martin, Medora, Minnetonka, Mill Boy, Marmora, Mary Cook, Mist, Northerner, Norway, Norwester, Niota Belle, New Cumberland, North River, Neptune, Newcastle, Olean, Orb, Ocean Spray, Omaha City, Paul Jones, Peru, Poland, Potomac, Quapaw, Rodolph, R. B. Miller, Rosalie, Robt. C. Yates, Roebuck, Spread Eagle, Southerner, Star No. 2, St. Paul, Stillwater, Stephen Decatur, Thomas Moore, Tom Jones, V. B. Horton, Watossa, Wyandott, Wild Pigeon, W. S. Walker, W. Bartle, W. P. Reynolds, Wisconsin, White Rose, Wm. Rhodes, W. H. Brown, Wm. C. Robinson, Utah, J. W. Cook, S. Kennedy, Lake City, St. Paul, D. Z. Brickell, John N. Shunk, G. C. Dunwell, Spray, Lewis S. L. Vandergrift, Joha Edie, E. N. Tracey, Jeremiah Forse, D. T. Brown, I. Whistler, Arizona, Aurora.

From 1858 to 1875, inclusive, a period of eighteen years, there was constructed in the vicinity of and enrolled in the district of Pittsburgh, six hundred and forty-nine steamboats, whose aggregate tonnage was one hundred and fifty-five thousand two hundred and fifty-three tons, and whose value was twenty-one millions eight hundred and eighty-six thousand and seventy-three dollars. In the same period

there was constructed five hundred and eighteen barges, whose tonnage was one hundred thousand eight hundred and eighty-three tons; also four hundred and ninety-six keel and flat boats, having a tonnage of twenty-one thousand six hundred and sixty-two tons, and twenty-six ferry boats, with a tonnage of twenty-six hundred and eighty-one tons; being an aggregate tonnage construction of two hundred and eighty thousand four hundred and seventy-nine tons, having an aggregate value of over twenty-two millions of dollars.

The following list gives the names, it is thought, of all the steamboats in that period: their tonnage, as well as the other craft built, being given in the foregoing paragraph:

1858.—Venango, Lake Erie No. 3, Sky Lark, Echo, Rowena, Pembinaw, Canada, Decotah, Ida May, Silver Lake, Victoria, Keokuk, Panola, Cedar Rapids, Jim Watson, C. Rogers, J. S. Cosgrave, Elmira, Diana, Fannie, A. G. Brown, Robt. Watson, Flora Temple, Emma Bett, Eagle, Vulcan, Era No. 3.

1859.—Conestoga, Niagara, Sam. Clark, Allegheny Belle No. 4, Northener, John Ray, Des Moines City, J. N. Kellogg, Coloma, Col. Gus. Linn, Post Boy, Emma, Jacob Painter, Red Chief No. 2, Leon, Nile, South Bend, Undine, Uncle Ike, Julia Roane, Indianola, Eva No. 4, John C. Calhoun, Mimmerlyn, Pine Bluff, Two Kings, News Boy, Indian No. 2, Andy Fulton, Grey Eagle, Cotton Plant, La Claire, Lucy Gwin, Lioness, Mingo, Marisanna, Picayune No. 3, T. D. Horner, St. Cloud, Izetta, Collier, Telegraph, Dunbar, Clara Poe, Belle Peoria, Persia, Bellewood, Dan'l B. Miller, George Thompson, Southern Flora, Vigo, Lone Star, David Lynch.

1860.—West Wind, Storm No. 2, Hawkeye State, Mohawk, Sucker State, Porter Rhodes, Sunny Side, Diadem, Gen. Anderson, Science, Arago, Dolphin, Porter, Alfred Robb, Webster, Maquota City, S. C. Baker, Chas. Miller, Alamo, Gallatin, Rose Douglass, Sabine, Frontier City, Wild Cat, Mustang, Arab, May Duke, Gazelle, Jackson, Cricket No. 2, Franklin, Time, Ad. Hine, Linden, Talequah, Lily, Era No. 5, Key West No. 2, Judge Fletcher, Era No. 6, Uchee, Wm. H. Young, Jonas Powell, Cornie, Liberty No. 3, La Salle, Arkansas, Emma Duncan, Matamoras, Commercial, O. H. Ormsby, John F. Carr, Sampson, Dick Fulton No. 2, Tycoon, "W. H. B," V. F. Wilson, Isaac Hammett, John T. McCombs, Kenton, Sunshine, Robt. Fulton, Daniel Bushnell, James Hale, Robert Lee, Westmoreland, Col. Stelle, Citizen.

1861.—Silver Lake No. 2, Lexington, Continental, Bill Henderson, Florence, Lia, G. W. Graham, Igo, Emma Graham, Billy Hodgeson, Cottage, W. H. Dinnis, Eglantine, Warren Packard, Geo. W. Stone.

1862.—Lacon, Monterey, Petrel, Tiber, Estella, Monitor No. 2, Express, Market Boy, Parthenia, Navigation, Silver Lake No. 3, Uncle Sam, New York, R. H. Barnum, Glide, Grampus No. 2, Exchange, Laura Bell, Golden Era, Juliet, Marmora No. 2, Saint Clair, Brilliant, Forest Rose, Romeo, New Era, B. C. Levi, Monitor, Tigress No. 2, Volunteer, Silver Cloud, Key West No. 3, White Rose, Liberty No. 3, Coal Bluff, Ella Faber, Nellie Rogers, Tempest, Starlight, Orient,

Cottage No. 2, Advance, Argonaut, Duchess, Emma No. 2, Shark, Whale, Mary E. Forsyth, Eclipse, Dick Fulton.

1863.—Armada, Armenia, Nevada, Emperor, Argosy, Jennie Rogers, Schuyler, Majestic, Davenport, Lily Martin, Carrie Jacobs, James R. Gilmore, Fox, Emma, City of Pekin, Sea Gull, Thistle, R. K. Dunkerson, Camelia, Silver Lake No. 4, Oil City, Echo No. 2, Glide, Princess, Mercury, Colossus, Calypso, Geneva, Welcome, Albert Pearce, Norma, Bertha, James Rees, Gen. Grant, Vigilant, Nightingale, Nyanza, Muscatine, America, Prairie State, Key West No. 4, Savanna, Sylph, Hettie Hartupee, Arcola, Alice, Olive, Carrie, Tiger, J. T. Stockdale, Leni Leoto, Capt. John Brickell, Charmer, Oil Exchange, General Irwin, Ida Reese, Argosy No. 2, Silver Cloud No. 2, Natrona, Petrel No. 2, Bengal Tiger, Tom Rees, Leonidas, Julia, Paragon, Lion, Hawkeye No. 2, Rover, Adelaide, Hunter No. 2, Urilda, Panther, Tom Farrow, Black Hawk, Advance No. 2, Leopard, Star, N. J. Bigley, Darling, Kate Robinson, Wm. Barnhill.

1864.—Hercules, Jos. Pierce, Warmer, Echo No. 3, Silver Spray, Alpha, Golden Eagle, Damsel, Benton, Brilliant, Little Giant, Little Whale, Hero, Traveler, Argos, Kate Kearney, M. S. Mepham, Ontario, Hyena, Montana, Bayard, Sewickley, Petrolia, Cherokee, John Tears, Diamond, Elizabeth, Louisville, Roanoke, Evening Star, Financier, A. Jacobs, Maggie Hays, Kate B. Porter, Alex. Chambers, Painter No. 2, Venture, Glide No. 3, Petrolia No. 2, Charlie Chever, A. Foster, Columbia, Alice, Kate Putnam, Virginia Barton, Lotus, Nora, Mist, Guidon, Stella, Hawk, Storm No. 3, Katie, Pilgrim, Wanana, Anna, Onward, Arrow, W. F. Curtis, Gipsey, John S. Hall, Zephyr, Bob Connell, Veteran, Little Alps, Rocket, Little Jim Rees, Allegheny, Centralia, Spray, Iron City, Yorktown, Leclaire No. 2, Commonwealth, Jos. Fleming, Coal City, Starlight, Picket, Tamaulipas, Champion, Alex. Speer, Argosy, A. J. Baker, Bee, Laura No. 2, Hard Times, Coal Valley, Albion.

From 1864 to 1887, inclusive, the river traffic having suffered from the multiplication of railroads, the boat-building industry decreased in its volume. There were, however, the following steamboats built:

1865.—Armadillo, W. H. Osborn, Deer Lodge, Fayette, Belle, Lark, Lorena, Dart, Ajax, Parana, Amelia Poe, J. S. Neel, Greenback, Reindeer, Forest City, Mink, Nimrod, Pike, Gleaner, Emma Logan, Dictator, Samuel Roberts, Minnie, Wild Duck, Fearless, Peerless, Imperial, Oil Valley, Julia No. 2, Tidioute, Keystone, C. D. Fry, Neville, Antelope, Sybil, John Hanna, Kangaroo, Mary Davage, Ida Rees No. 2, Wild Boy, Annie Lovell, Messenger, Barnett, Fred Wilson, Grey Eagle, Ella, Katie Timmen.

1866.—Luella, Glasgow, Rubicon, Winchester, Jas. L. Graham, Importer, Emma No. 3, Ella, N. J. Bigley, Jim Wood, Wm. Osborn, Peter Balen, Dan Hine' Talequah, Minnesota, Miner, Elkhorn, Nile, Blue Lodge, Gray Hound, Chieftain, Pine Bluff, Arabian, Resolute, Elector, Rapidan, R. C. Gray, Lotus No. 2, S. M. Crane, Fair Play, Fort Smith, W. A. Caldwell, Van Buren, Ezra Porter, Belle Vernon, Quickstep, Rochester, Atlanta, Simpson Horner, Sam. Brown, Flicker, Mary Ann, Grand Lake, Glendale, Dexter, Jim Brown, Exchange, Baltic.

1867.—Elizabeth, Ida Stockdale, Elisha Bennett, Diamond, Great Republic, Dubuque Boaz, Linton, Success, Active, James Gilmore, Clipper, City of McGregor, Glenwood No. 2, J. N. McCullough, Rapidan No. 2, Abe Hays, J. F. Dravo, Selma, Mary Alice, Reliable (Schooner).

1868.—Arkandosea, Undine, Peninah, Sallie, J. A. Blackmore, Andrew Ackley, Mountain Boy, Park Painter, A. E. Pierpont, J. D. Johnson, Galatea, M. Whitmore, Ft Gibson, W. M. Stone, Economist.

1869.—Mollie Ebert, Silver Bow, Carrie V. Kountz, Three Lights, Nick Wall, Colossal, Minneapolis, Flirt, Ironsides, Australia, Mountain Belle, Matamoras No. 2, Lotus No 3, Jefferson, Baranquilla, Julia A. Rudolph, Batesville, Grand Lake No. 2, Chas. H. Durfee, Hornet No. 2, Lioness No. 2, Phoenix, Irwin, St. Louis, Harry A. Jones, Fred Wilson No. 2, Tom Rees No. 2, Samson No. 2.

1870.—Ruth, Carrie V. Kountz, Arlington, City of Evansville, Juniata, Far West, Lake Superior Red Wing, Trader, Fontenelle, Granite State, R. J. Lockwood, Exchange, Carrie Converge, Tidal Wave, Mollie Moore, N. J. Bigley No. 2, George Roberts, Thirteenth Era, Oil Valley No. 2, Samuel Clark, Joseph H. Bigley, Brill, John A. Wood, Wm. Cowan, Oceanus, Veteran No. 2, R. J. Grace, Henry C. Yeager, J. Sharp McDonald.

1871.—May Lowery, John Bigley, Belle of Texas, Glencoe, Tom Dodsworth, John Gilmore, D. T. Lane, E. H. Durfee, Denver, Esperanza, Nellie Peck, Lady Lee, West Virginia, Katie P. Kountz, Baton Rouge Belle, Tom Lysle, James Jackson, Charlie McDonald, Belle Rowland, Geneva, Cora Bell, Park Painter No. 2, Storm, Jos. A. Stone, John Penney, J. S. Mercer, Robert Sample, San Juan, Alice Brown, John F. Tolle, Abe McDonald, Ben Wood, N. M. Jones, Athletic.

1872.—Alex. Foster, Bill, Billy Collins, Charles Brown, Evan Williams, Emma Graham, Exporter, Ella Layman, George Lysle, Grand Lake No. 2, George Baker, Iron Mountain, J. O. Keeper, John Dippold, T. A. Stone, Kate Dickson, Key West, Lillie, Little Andy Fulton, Maggie Smith, Modoc, Murillo, My Choice, M. Dougherty, Nellie Walton, Oakland, Paragon, Relief, Reliable No. 2 (schooner), Samuel Miller, Shippers' Own, William Wagner, W. G. Horner No. 2, Western, Acorn.

1873.—Advance, Ark, B. D. Wood, Belle McGowan, Eliza, Enterprise, Hippopotamus, Horner, G. L. Risher, Joseph Walton, Josephine, S. W. Morgan, Rover No. 1, Rover No. 2, Rainbow, Transit.

1874.—Joseph Warner, Jennie Walker, Rainbow, David Wood.

1875.—Andrew Foster, Benton, Big Foot, C. W. Batchelor, Chas. A. Wood, Cumberland, Carroll, Chas W. Mead, Dauntless, Fanchon, George Baker, George F. Danna, Gen. Mead, John L. Rhoads, Jack Gumbert, James Neal, Rose Miller, Robt. McChesney, Seven Sons, Scout, Shingo, Thomas J. Darrah, Tennessee, Trader, W. S. Holt.

1876.—Boston, Collier No. 2, G. A. Greer, Gov. Garland, Gibsonton, Hard Cash, Joseph K. Williams, Joseph Cook, John Snowden, Peninah, Stella McCloskey, South Side, Telegram, William Thaw.

1877.—S. Woodyard, Black Hills, Big Horn, Coal Bluff No. 2, Decker, Bros., Elk Horn, E. S. McLain, Emma, F. S. T., Francis Murphy, Gen Custer, G. W. K. Bayley, George A. Laskell, Hercules, Hiclus, Hawkeye, H. B. Leonard, Hattie Howland, Iron Clad, Ida, Iron Duke, Ironton, J. Bell, J. F. Hague, John Porter, James Laughlin, James Nixon, James W. Gould, J. R. Laskell, Jack Gumbert, Kate Hooper, Keystone, Katie Stockdale, Leonie, Little Charlie, Liberty, Lillie, Mamie McCloskey, McKelvy, Oakland, Orient, Occident, Onward, Pike, Robert Cook, Rose Bud, Rover, Smoky City, Sidney Dillon, T. C. Collins, Tillman, Viola, W. C. Geoffrey.

1878.—Alice, Annie Roberts, Alert, Albie, Alice Bell, Blanch, Boaz Bellaire, Buckeye State, Bessemer, Carrier, Clinton, Dick Fulton, Drake, Dacotah Belle, Emma Cooper, Eclipse, E. I. Hulings, F. G. Batchelor, Germania, George Matherson, Gen. S. Terry, Gen. G. D. H. Rucher, Green No. 1, Geneva, Gen. Chas. H. Tompkins, Geo. H. Crawford, H. M. Graham, John P. Thorn, Joe, J. B. M. Keklor, J. S. Neel, John P. Thorn, Josie Harry, Joe Scay No. 2, J. B. O'Brien, Jos. B. Scully, Katie Williams, La Belle, Lucy, Maud Willmot, Mary Morgan, Martin Speed, Montana, Nellie Brown, Norma, Frank B Nimick, Pittsburgh, Pearl, Ruby, S. Thorn, Soho, Vigilant, W. Quickham, Wharton McKnight.

1879.—Dacotah, Harry Brown, James Lee, John E. Tygert, Mary C. Campbell, Plow Boy, Wyoming.

1880.—Alarm, Chas. Jutte, Dean Adams, Dove, Eagle, Exquisite, Florida, H. T. Dexter, Harry Earle, G. W. Bunton, Iron Age, Ida Lee, James H. Rees, J. McC. Creighton, John S. Hopkins, John C. Fisher, James O'Connor, Little Bill, Little Fred, Pacific, Stella, Scotia, Short Cut, Tenafly, W. T. Wheless, W. Jones, W. Kraft.

1881.—Billy Ezel, Comet, Delta, Electa, Excel, Iron Duke, Iron Cliff, Jim Brown, John Gilbert, John Dippel, John Moon, John Lomas, James Caldwell, Keystone, Little Dick, Little Fred, Lud. Keefer, Mark Winnett, M. G. Knox, Mike Dougherty, Maggie, R. B. Kendall, Rescue, Sam Brown, S. L. Wood, Tide, Wasp, W. W. O'Neil.

1882.—Boaz, Charlie Clarke, Cora, Chattahoochie, Dan'l Kane, J. M. Powell, James G. Blaine, John K. Davison, Kate Adams, Lulu Wood, Lizzie Timmonds, Percy Kelsey, Raymond Horner, W. Stone, Will S. Hays.

1883.—Alabama, Clifton, Chicasaw, Eugene, Frank Gilmore, Frank Stain, Fred. Wilson, Gondola, Gayooe, Joe Peters, Little Ike, Monterey, Minnie Ray, R. A. Speer, Robert Jenkins, Phoenix.

1884.—Creighton, Ed. Roberts, Geo. F. Danna, Hattie Brown, Ida Stockdale, Pittsburgh, Orion, Slack Water, Two Brothers, Venice, W. D. Bishop.

1885.—Adam Jacobs, Geo. Kaplan, Josie W., Jim Wood, John Moren, Laura May, Mary Disston, T. P. Leathers, Vanguard, Venus, Voyager.

1886.—Beaver, City of Chartiers, George R. Ford, Hudson, H. B. Sinclair, Nellie Hudson.

1887.—Butterore, Eugene, Geo. Wood, Ralph.

1888.—Elizabeth, Harmony.

Pittsburgh seems to be one of those locations predestined, if the expression may be allowed, for a ship-building centre. All the varieties of timber necessary is at her doors. The enterprise and skill of man has assembled all other materials for the complete construction of any vessel, from an armoured war-ship to a burden barge. Under the use of iron and steel, which has so largely obtained in ship-building in the past two decades, Pittsburgh has shown her ability. In the past ten years many steel boats have been constructed at Pittsburgh for foreign countries, and the industry bids fair to increase. As naturally as Pittsburgh became an iron centre because of her iron and fuel, so did it become a boat and ship-building point because of the materials there and the navigation. The skill of man is wonderful, and the forces of Nature are all powerful, so when at any given point the forces of Nature and the skill of man combine great results are a consequence. Pittsburgh is a result of natural advantages and accumulated skill.

While the advent of the railroads increased the iron and steel developments at Pittsburgh, it to some extent diminished the building of steamboats. The skill and natural advantages are as great as ever. In the future developments that *must be* of the water highways of the country, the natural and skilled advantages of Pittsburgh will reassert their force and make her a great steamboat and ship construction point, not only of wood, but largely of iron and steel. Iron boats Pittsburgh has been building since 1839.

The first boat built of iron that navigated the western waters was the "Valley Forge," built in 1839, by Wm. C. Robinson, Benjamin Minis and Reuben Miller, Jr., then proprietors of the Washington Iron Works, now carried on under the style of Robinson, Rea Manufacturing Co.

The hull of the "Valley Forge" measured on deck 180 feet. The breadth of beam was 29 feet, and depth of hold $5\frac{1}{2}$ feet. Across her deck and guards, at their widest point, the breadth was $49\frac{1}{2}$ feet. The frame of the boat was of angle iron, the bottom and deck beams T iron, and the outside one-fourth of an inch Juniata boiler plate. The boiler or first deck was all plate iron. The floor and hull plates were of plain smooth surface, the sheets being closely jointed at the butts. The sides were clinker lap. The keel, which was five-eighths of an inch iron, was laid in the summer of 1838, and the vessel was launched in the summer of 1839, and left the same fall on her first trip to New Orleans. There was one iron bulk head the entire length, divided into eight water tight sections. Her tonnage was about four hundred tons, and her cost \$60,000. She ran from Pittsburgh to New Orleans, St. Louis and Nashville, and ascended the Cumberland river as high as "Rome," Georgia. She continued to run until 1845, although once sunk by running upon a snag, but was raised and repaired. In the spring of 1845, being unable to compete with boats built under improved plans with greater carrying capacity, she was dismantled, and the hull was cut apart and sold to iron manufacturers, and made into various descriptions of merchant iron. The last trip of the "Valley Forge" was in July, 1845, from Pittsburgh to McKeesport, with a large picnic party.

There has been built at Pittsburgh, in all, some fifteen or eighteen iron boats, of which nine were war vessels. Two of these were constructed at the Fort Pitt Foundry works, famous for its manufacture of Columbaids. These two were built in 1845. They were each 210 feet keel, 21 feet beam, 17 feet depth of hold, and constructed of iron, varying from one-half to three-sixteenths of an inch in thickness. One of these, the "Jefferson," was constructed at Pittsburgh, taken apart and transported to Oswego, and there put together again and launched. She was perfectly satisfactory in all respects, and cost \$180,000, and is still in service. The other was called the "George M. Bibb," after the then Secretary of the Navy. The "Bibb" was launched at Pittsburgh, and went down the Ohio and the Mississippi to the Gulf of Mexico. Her cost was \$250,000, and she is still in service. These two were two years in building. The iron revenue cutter "Michigan," now in service on the lakes, was also built at Pittsburgh, being set up complete on the lot at the junction of First and Liberty avenues, now occupied by the First Ward Public School. She was then taken to pieces and transported to the lakes, and there put together and launched. The iron for her construction was furnished from the famous Sligo Mills, of Lyon, Shorb & Co., from their best Juniata blooms, and $350\frac{3}{4}$ tons of this celebrated brand of iron was used in the construction of the vessel. In 1863 two other vessels were built on the ground adjoining the Sligo Mills, of iron furnished from these works. One, the "Manayunk," was a turret ship, armed with two fifteen inch guns. Her length was 224 feet, beam 43 feet 3 inches, depth of hold 12 feet, draught of water 12 feet, and the inside diameter of her turret 21 feet. This vessel was pronounced by good naval authority as a most admirable boat; in all respects safe to sail in around the world. The other, called the "Umpqua," was a lighter draught, intended for river service, but also a turret vessel, or monitor, as they were popularly called during the war. Her length was 225 feet, with 45 feet beam, 7 feet 10 inches hold, and drew 6 feet 6 inches water. The height of her turret was 9 feet, and its inside diameter 20 feet. She was armed with one eleven inch gun and one one hundred and fifty pounder Parrot rifle gun. There was used in the construction of the "Manayunk" $1,247\frac{1}{2}$ tons of iron, and in that of the "Umpqua" 813 tons. The plates for the turrets of these vessels were inch plates ten times repeated. The iron of the skins or hulls was from three-fourths to one-half inch in thickness. Both these vessels went to sea by way of the Ohio and Mississippi rivers. Two other war vessels for the United States navy were also constructed at Pittsburgh about 1845. One was a small revenue cutter called the "Hunter," and the other a second-class frigate called the "Allegheny," both of which went down the Ohio to the ocean, and are still in service. In 1864-5 there was also built for the government, of iron, the "Marietta" and the "Sandusky." In addition to these, several boats for the peaceful uses of commerce have been constructed at Pittsburgh, of iron furnished by her iron mills.

As previously observed, the building of steel boats has been one of the items of the progress that has been made at Pittsburgh in the past decade.

To James Rees & Sons, of Pittsburgh, belong the honor of constructing the first *steel plate* steamboat constructed in the United States; to Hussey, Howe & Co. that of furnishing the steel plates and other steel entering into its construction, and to Pittsburgh mechanics the credit of the work—a noteworthy honor for Pittsburgh enterprise and skill. It is also worthy of note that a company in a foreign country gave the contract to a city of a strong protective tariff nation as in competition with experienced builders of free trade advocating people. It would seem that good wages to workmen, as a result of protection, was far from weakening ability to enter other than home markets with the product of their labor, but rather to the reverse.

This vessel was the *Francesco Montoya*, and built in 1878 for the Magdalena Steam Navigation Company, of South America.

The boat was 150 feet long, 30 feet beam, and 3 feet hold. The construction of the boat was with angle iron ribs, 18 inches apart, and angle iron deck beams and steel plated hull. She was constructed with nineteen water-tight compartments.

While the boat was constructing, the parties for whom it was being built were constantly protesting against the use of steel instead of iron, alleging that she would be liable to snap and break in two when landing hard, or if striking a rock or bar. With an unflinching confidence in Pittsburgh steel and the work of the firm furnishing the plates, the builders guaranteed the result. Their faith in Pittsburgh work was fully sustained in several instances of the accidents feared. In the rapids of the Magdalena river during a freshet, while the boat was going down stream, the engine and rudder had no control of the movements of the vessel, and she was thrown upon some rocks while running at the rate of thirty miles an hour, as the captain and engineers reported to the owners. The shock broke nineteen of the iron ribs and bent some of the steel plates from six to eight inches, but there was not a hole punctured and but little leakage.

There was also built for the same company, in 1879, the *Victoria*, 157 feet long, $33\frac{1}{2}$ feet beam, $4\frac{1}{2}$ feet hold; also the *Roberto Calisto*, 110 feet long, 22 feet beam, 3 feet hold; also, steamer *Comuta*, 130 feet long, 30 feet beam, and 3 feet hold.

These boats were all erected here, then taken apart and shipped to their destination in pieces, a couple of skilled men being sent to superintend the construction of the boats on the Magdalena river, employing the native labor in the work. That Pittsburgh shops pack nails in kegs, steel and bar iron in bundles, and ship to distant ports; tumblers and other glass ware in boxes to Europe, reflectors and electric light apparatus to Japan, and a score of other descriptions of her manufactures to many foreign parts, is of so constant occurrence as to have lost novelty. That a whole steel steamboat should, however, be packed like so much tin plate and thus delivered to the purchasers is a matter of singular interest. Verily great is Pittsburgh and skillful her workmen. In 1880 was built the steamer *Venezuela*, constructed entirely of steel, being the first in which steel was used in place of angle iron. Since then has been constructed the steamer *Columbia* and steamer *America*, of the same dimensions as the *Venezuela*; also, in 1881, the steamer

Irura, 112 feet long, 22-foot beam, and 3-foot hold, to run on the San Juan river, Nicaragua.

The fame of the "stern-wheelers" of Pittsburgh attracted attention also in Russia, and from the shops of Pittsburgh ship-yards went the drafts and specifications and the mechanics that inaugurated upon the "Volga" and the "Dneiper" and other rivers of Russia the building of those stern-wheel steamboats which now navigate those and other streams in that empire.

In the course of these pages has been frequently noted the dominating force of the city in its industrial character. Possessing the largest chimney factory in the world, a table ware factory of the greatest capacity in the world, the largest crucible steel plant, the most extensive Bessemer plant, the greatest coffee house in the world, the greatest flour house, producing over one-eighth of all the pig iron of the United States, nearly three-fourths of all the coke, two thirds of all the glass ware, and two-thirds of all the crucible steel, Pittsburgh is truly a city to be proud of, and in this record of boat building it is beyond all question the greatest steel and iron boat building point in the United States, and her boat builders are shown as aiding in the building up by their skill the internal transports of two great empires. Yet it seems but an ordinary industrial community to the average Pittsburgher instead of a city to be proud of. So much a matter of every day routine are the products of their great factories and their working.

In closing this condensed sketch of Allegheny county's history in boat building, a few sentences are proper, to point out the admirable location there is at Pittsburgh, or in its vicinity, for a national naval construction arsenal.

Where could there be so desirable a point as Pittsburgh? The iron, the steel, the woods are there; the foundries for the casting of guns; the mills for armor plates of any thickness or test; the hemp of Kentucky, for the cordage; copper and brass for all purposes, as well, and a reserve of skillful mechanics in all departments of work at all times available. Built, armored and fitted out in every particular in security from attack the ships could descend in safety to the Gulf for such services as the hour required.

In the vessels of war mentioned as constructed, her power in that respect was fully tested, while the ease with which those ships descended the rivers to the ocean, or were transported in sections and put together at other points, makes its own argument as to facility. No expensive governmental works were in any of the instances required to be built before proceeding with the work. The mills and machine shops in daily use turned out the material as required, and the mechanics of the city found themselves perfectly competent to fashion the hulls and complete the ships. When this facility in the matter of iron vessels is shown; ability in wooden ones, tested for years, when the security of the position is considered, and the facilities of sending vessel after vessel, of almost any draught, to the ocean, apparent from actual tests,—and the great supply of all materials, whether of woods or metals, or fabrics, manifest, there seems much reason why government should find it desirable to locate here a naval construction yard.

The day for the full use of the Ohio and our other western rivers has not yet fully dawned. When it does the great facilities Pittsburgh possesses of materials and skilled workmen will keep her in the front, as heretofore, as a great ship yard.

The construction of boats at Pittsburgh has, of course, not been in the immediate purlieus of the city, but at the various ship yards in the vicinage, although all the iron ships from 1839 to the present date have been constructed at the immediate wharves of the city.

The tonnage of the city of Pittsburgh at the present time is 1,359,972 tons, being the Custom House measurement of 3,200 steam, passenger, tow and other vessels of various kinds used in the boating business of the city.

In this it must not be understood that all the tonnage of the port of Pittsburgh is included. At the Pittsburgh Custom House only the steamboats are registered. The great barge and coal boat tonnage is not included. This in itself is very large. If, as at the port of New York, all description of craft were registered, it is a fact that the tonnage of boats using the river, at Pittsburgh, is greater than that of the city of New York, the greatest commercial point of the United States.

There has been over 3,000 steamboats and ships constructed at Pittsburgh and vicinage within the dates given in the preceding pages. The entire steamboat tonnage that has been built at Pittsburgh and vicinity, since 1811 until 1888, is about 1,000,000 tons; and the value of the vessels so constructed, as near as can be estimated, is about \$50,000,000.

In this, as before said, is not included the barges, many of which carry from three to five hundred tons; nor the coal boats of equal capacity, the number of which, from the reason before given that they are not registered, cannot be arrived at, and consequently neither can their aggregate tonnage. If it could it would probably more than double the aggregate tonnage as given in the preceding paragraph.

CHAPTER X.

Coal and Coke Trade.

A historical sketch of the coal trade of Allegheny County necessarily centers, in its facts and statistics, in and around Pittsburgh, as it is the point of departure of all the coal transported by river, and much of that by rail. The business offices of nearly all the firms engaged in running or shipping coal are in Pittsburgh, and their transactions made and concluded there. A large proportion of the coal is, however, mined in the adjacent parts of Washington and Westmoreland counties, although in the townships, lying along the Monongahela river and Pennsylvania Railroad, large tonnage of coal is taken out. The handling of and use of coal at or in the vicinity of Pittsburgh, ante-dates any of what are now the standard products

of Allegheny County, and its possible future benefits attracted attention even before the building of Fort Pitt. Colonel Burd, in his journal, while constructing the road to old Redstone Fort, now Brownsville, mentions it; and Washington, in 1770, while stopping at Fraziers, on the Yonghioheny, makes mention of having examined coal taken from the opening of a vein on Frazier's grounds. There is nothing remarkable in this, however, as, of course, coal as a mineral was no novelty to either of the persons quoted. It is only quoted as probably the first mention of the substance west of the Alleghenies, which has become the leading export of Allegheny County's products, and through which the cities and towns of the Ohio and lower Mississippi valleys obtain their fuel for household and manufacturing purposes, and the cities their gas for lighting. Could Colonel Burd or George Washington, when they examined the specimens they mention, have been told that the coal trade of Pittsburgh and vicinity could have reached its present enormous magnitude, they would have considered it not only a "Munchausen," but one of the more visionary of such fables. But while every day occurrences prove that truth is stranger than fiction, so has the wonderful growth of the United States far outstripped what the wildest imagination could have voiced a hundred years ago. The writer remembers with triumphant pleasure how, when a mere youth, fifty years ago, being joked and laughed at by a circle of business men gathered 'round an old-fashioned blazing coal fire, because he ventured the assertion that in less than twenty-five years the coal fields to the east of the city, then to be had from five to ten dollars per acre, would be worth their hundred, and the coal be taken out by shafts where it could not be otherwise reached. Most of those who laughed at it as a youth's fancy lived to see it verified. It is not necessary now to venture prediction of the future coal trade of Allegheny County; its past progress and the increasing population of the Ohio and Mississippi foretell what its magnitude will be.

Of its early use at Fort Duquesne there is no record, but some legends state that the French troops dug and used some from the hill opposite the fort. This possibly may have been so, but in the abundance of timber and the ease with which it was obtained, it is not probable that the trouble of mining coal would be taken. In the earlier days of Fort Pitt there are also some traces of its use, but wood was still abundant, and in the cleanliness and poetic beauty and sentiment that accompanied a "roaring wood fire," the use of coal, with its smoke and soot, did not likely find much favor.

The first record of actual coal mining is in the grant from the "Penns," in 1784, to mine coal from the hill immediately opposite the fort, "as far as the perpendicular falling of the hill," for thirty pounds a lot. According to an old tradition this coal was tied up in raw hides and rolled down the hill. It is also recorded that Shiras' brewery, at the point, was supplied in 1795 with coal by a Mr. Mossman, from a pit now in the Thirteenth ward of the city of Pittsburgh, formerly called Minersville from the settlement of coal miners there.

A Lieut. Robbins, who settled at a point now called Robbins Station, on the Baltimore and Ohio Railroad, in 1796, opened up a coal pit in that year there,

and began using the coal for smelting and domestic purposes. In 1797, when General O'Hara and Major Craig established their glass factory at Pittsburgh, it is of record that Mr. Eichbaum was taken to a point on the side of the hill opposite the town to make an examination of the coal there, to see if it would do for use in the glass furnace. These facts, although not new in the history of coal, are mentioned as the genesis of the use of coal at Pittsburgh that the reader may, if he chooses, bridge in his mind the contrast between then and now, in the exposition made on the present magnitude of the coal and coke industries of Allegheny County.

It was when the shipment of coal down the Ohio river commenced that the dawn of the Pittsburgh coal trade really began. This was in 1817, and by Thomas Jones. Fourteen years previous to that, however, a shipment of coal had been made to Philadelphia, by way of the Ohio river, on the ship Louisiana in 1803. The ship being ballasted with coal, which was sold on the ship's arrival at Philadelphia for 37½ cents per bushel, or \$10.50 a ton. The price "Pilot Tom Jones," as he was called, obtained for his coal at Maysville, Kentucky, the point to which he first boated coal, is not of record.

About the same time Louis Sweeny engaged in floating coal down river. The whole transaction, from the mining to the transportation to its down river market, was a very crude process in comparison with the methods by which now the great bulks of coal are handled. The pit from which Jones obtained his coal was near what was known as "O'Hara burning pit," which was on the hill opposite the mouth of Penn avenue, about two-thirds the height of the hill.

Mr. Jones mined his coal in winter, bringing it down the hill on sleds and piling it on the river bank, until the early spring, when it was loaded on what were called "French Creeks," being flat bottoms of heavy timber, about twenty feet wide and eighty long, sided up to the height of six or seven feet. These, when loaded, were moved by the current of the river at its flood period, and guided by long sweeps or oars by a crew of five to eight men.

This primitive method of transportation gradually grew in scope as the number of persons engaging in the business increased. In many respects it was speculative in its character, as the profitable result depended largely upon the success that attended the boatmen in bringing their cumbersome "coal boats" safely to their destination. The hazards were great and the losses frequent, from the sinking, from various causes, of the frail crafts burdened with such heavy cargoes. The business of "mining coal," as it was at that time called, continued to increase, and from a few individuals pursuing it, a number of firms with ample capital made it their sole business, and the spring and fall rise of the Ohio became important events in the commerce of Allegheny County. These periods were the principal times in which coal was run, although small "runs" were made when some sudden freshet in the summer gave sufficient water.

The departure of these coal floats were the occasions of great activity and interest, as they frequently required from their size, from three to four hundred

men to manage them, the boats being lashed in pairs, and as many as thirty to fifty pairs leaving the wharves of Pittsburgh on a fall or spring rise. Each pair requiring from eight to ten men to handle the sweeps. The "coal boat men" were recognized as a special class of population, a sort of Mike Finks, quite as reckless, and as much disposed to joviality. The "trips," as they were called, were looked upon by the crews as a combination of hard work, adventure and frolic, and when returning, either afoot, as they did sometimes, or as deck passengers on the steamboats, they were apt at all times to be rather riotously disposed. The novelty and spirit of adventure to be found in a coal boat frequently induced young men of the better classes of society to engage as one of the crew, and to-day there are to be found among the staid, sober, elderly citizens of the county, business men who recall with a pleasurable recollection their "coal boat trip."

The system of transporting coal to the lower markets continued until 1845, when Daniel Bushnell, who is still living, began as an experiment the towing of coal with a small stern wheel steamboat called the Walter Forward. This boat continued to be used for that purpose until the year before the outbreak of the civil war, when she was sunk in the Tradewater river, Ky., having come into possession of a firm mining coal on that stream.

The Walter Forward's first trip was to Cincinnati with three small barges loaded with 2,000 bushels each of coal. In the same year Judge Thomas H. Baird began towing coal to Hanging Rock, Ohio, with a side wheel boat called the Harlem and two "model barges," bringing back pig metal as a return cargo. In 1849 Hugh Smith began to tow coal to the lower markets with the steamboat Lake Erie. In 1849, Daniel Bushnell, the originator of this system of coal transportation, built the Black Diamond to tow coal to Cincinnati, and extended the carrying by this method to New Orleans, from which date the towing of coal superceded entirely the old floating system. This system of coal transportation now so entirely made use of on all the rivers, is so fully described and the details so fully set forth in a volume entitled, "Pittsburgh's Progress, Industries and Resources," that it is here quoted as the best exposition of this part of the coal trade of Allegheny county :

"The proposition to tow the unwieldly 'French creeks' was received by the 'coal boatmen' with ridicule. The term 'crank' had not then been coined, but those who talked of towing coal as a feasible thing were at that day spoken of as such under a more derisive name, and conversative business men shook their heads wisely and smiled dubiously. As the coal boats had to be floated to market on flood waters it did to those acquainted with the rapid currents of the Ohio in the spring and fall rises and June freshets seem a dangerous business to attempt to tow those huge unwieldy bulks of coal in flat-bottomed, box-shaped boats through the crooked channels and sharp bends of the river.

"The term towing is a misnomer, as the boats and barges containing the coal are propelled instead of towed. Although this is an old story to Pittsburghers and many along the river, yet to others it may not be uninteresting to be told that a tow, as it is called, is made up of one towboat and from ten to fourteen barges, coal boats or flats, and from one to four fuel boats filled with slack coal for boiler fuel during the trip. These boats are all placed in front of the towboat, except

one on each side of the steamer, all securely lashed together, forming a compact mass about 350 feet long and 150 feet wide, and holding from 500,000 to 700,000 bushels, or about an average of 24,000 tons, being the yield of from five to seven acres of coal land according to the size of the 'tow' so called. Of such 'tows' from eight to ten in a day in the coal boating stages of the Ohio leave the harbor of Pittsburgh for all points below as far as New Orleans, and there are now from 90 to 100 towboats, varying in cost from \$8,000 to \$30,000, employed in thus propelling coal, being the outgrowth in forty years from the little 'Walter Forward' with her three flat boats holding 6,000 bushels or 240 tons of coal.

"As explanatory to those who are not 'to the manor born' of the terms of 'barge,' 'coal boat' and 'flat,' being the 'packages,' as the trade term is, in which the coal is carried, a word or two of description of these 'packages' may be of interest. Coal boats are built 170 feet long by 26 feet wide, of 1½-inch planks with about 18 inches rake at each end. They carry 24,000 bushels and draw seven feet when loaded. They are only used to convey the coal to its point of destination and go with the coal in the sale. They cost about \$600 each. A barge is 130 feet long by 25 feet wide, constructed somewhat similar to the hull of a steamboat, but with stern and prow alike having bottom planking of 3-inch thickness and gunwales 6 inches. The loading capacity of barges is about 13,000 bushels and they draw six feet water when loaded. They cost from \$1,000 to \$1,100, and last from nine to ten years, being *towed* back from the point where the coal is sold, going by the technical term of 'empties' on the return trip. Fuel boats are similar to barges, only smaller, being 95x20 feet, and draw four feet water loaded. They cost \$600 and will last ten years in service, and carry 7,000 bushels. Flats are 90x16 feet, built same as barges, carry 4,000 bushels and draw, loaded, 4½ feet water, costing about \$400.

"A tow of coal made up of these various descriptions of boats to the number as before stated, of eighteen barges, coal boats and flats, with the tow boat, and loaded with the average of 600,000 bushels or 24,000 tons coal, represents a value of about \$80,000 as it leaves the harbor of Pittsburgh. As before stated eight or ten of such massive islands, as it were, of coal, equal in surface to one and a quarter acres, and floating the coal product of from six to seven acres of coal land, depart in the boating stages of the Ohio from Pittsburgh. The driving, for such it almost seems to be, in its handling by the deft pilot who with sinewy arms whirls and rewhirls the wheels that guides the boat and this mass of coal, is a task to which only those brought up to the trade are competent. Skill, judgment, nerve, are all called into play as this ponderous bulk, borne along on a river at flood height, running at a current of eight to ten miles an hour, sweeps onward. Through narrow channels, round sharp bends, between the stone piers of bridges, where a missturn of the wheel, a failure of judgment, a miscalculation of distance means disaster and wreck, the pilot guides the tow, now backing, now flanking, now pushing now floating, watchful and cool the pilot does his work. There is probably no such boatmanship shown anywhere else in the world as is displayed by the Pittsburgh coalboat pilot. It is a wonderful exhibit of skillful navigation, the thus handling by the nerve grip of one man on a wheel a bulk of 30,000 tons, moving at a speed of from twelve to fifteen miles an hour down such a tortuous stream as the Ohio, and with perhaps not five feet to spare of channel width or two feet of water depth."

The dangers of this perilous business is yearly increasing, from the multiplication of bridges across the Ohio, and the impediments to safe running caused by their piers, which are often placed with more regard to the interest of the bridge-owners than the requirements in Ohio river navigation.

In the earlier days of the river coal trade in Allegheny county, while but little capital beside the ownership of the coal tract was required to load and float three or four pairs of boats to market, it was, as before observed, more of a speculative business. While there were two or three firms who systematically pursued it, there were others who occasionally loaded two or three pairs of boats as an adventure, and despatched them to a market under the supercargoship of a partner in the venture, or some trusted clerk. Many of these floats were loaded for their owners at collieries by parties whose chief business was to load boats for others, who simply bought the coal and sold it at the first down river market to be found. With the increasing of the practice of towing, the business rapidly assumed its present system, in which is embraced not only the ownership of large bodies of coal, but the establishment of perfectly ordered collieries, with their little villages of miners' houses, ship yards for the completion and repairing of boats, a number of towboats, and a corps of pilots, engineers, captains and other business employees, under yearly contracts and salaries, with depots at the larger cities on the Ohio and Mississippi, necessitating the use of large cash capitals, and consequently the formation of firms with large pecuniary resources. The business of running coal by river is a hazardous trade, and to attempt to follow genealogically, as in this volume is done in some of the other industries, the firms engaged in the past in its transactions, would be too intricate and prolix, for the financial wrecks lie thickly strewn, the liquidations, assignments so numerous, that it has been clearly a survival of the fittest, or in other words, those whose capital could withstand the "bad seasons."

No business is without its thorns, but the coal trade is far from a bed of roses. What, with frequent strikes of the miners, seasons of low water, unremunerative prices in overcrowded down river markets, sinking of boats from collision with bridge piers, and other causes, the "Coal Barons," as they have come to be termed, often find themselves considerably *barren*, raising a doubt whether the title was given in honor or sarcasm.

The "runs" made yearly of coal by river is, to some extent, governed by the "river rises," or freshets, it requiring from eight to ten feet of water for the fleets to float on. From two to four of such stages of water are general in a year, although there have been exceptionable years where there have been but one or two. The coal thus taken to market comes almost entirely out of the coal lands bordering the four pools of the Monongahela Navigation Company slackwater. While the detailed statistics of the "runs" made each year might be interesting to some, yet to the general reader the comparative increase by decades are sufficient to show the increase of the industry and its present magnitude. In 1845 it was 4,605,185 bushels, or 187,207 tons; in 1855 it was 22,234,000 bushels, or 889,360 tons, or an increase of 500 per cent. in ten years. In 1865 it was 39,584,697 bushels, or 1,583,286 tons, or an increase over the shipments of 1855 of about 90 per cent., and over that of 1845 900 per cent. In 1875 it was 62,000,000 bushels, or 2,400,000 tons, an increase on the immense shipments of 1865 of about

60 per cent., or an increase in thirty years of over 57,000,000 bushels, or 2,200,000 tons. In 1885 the shipments were about 105,000,000 bushels, or 4,200,000 tons, being nearly double that of 1875, and an increase in forty years in the annual shipments of 100,000,000 bushels, or over 4,000,000 tons a year. In that forty years, as nearly as can be obtained, there has been shipped by river from Pittsburgh 1,035,000,000 bushels of coal, or about 67,000,000 tons, or about 17,000 acres, for the mining of which, including diggers, tools, hands and other mining expense, over \$58,000,000 of wages were paid. This does not include the wear and tear of the ninety to one hundred towboats engaged in the transportation, the wages and maintenance of their crews through the year. The tolls alone paid the Monongahela Navigation Company in that time were over \$2,500,000. The aggregate yearly shipment at the present time is about 110,000,000 bushels, or 4,400,000 tons. The wages paid the 8,700 hands they employ for mining labor alone is about \$4,000,000 a year, and the tolls to the Navigation Company \$264,000.

When to this is added the expenses of the towboats and their maintenance, the losses from the sinking of the boats, and all the incidental expenses of the business, insurance on steam towboats, their repairs, it cannot be claimed that the coal business is one of great profit, although the sums received from sales look formidable in the aggregate; for it should be remembered that if the "Coal Barons" put money in their bank account it is to some extent "robbing Peter to pay Paul," as every bushel of coal is so much taken from their invested capital in the coal lands. It is, however, enriching the county of Allegheny by the distribution of large sums for wages and other expenses, which would not be did the coal lay undisturbed in the hills.

With the extension of railroads and the competition for freight arising, the coal lands lying along the routes of the roads began to be developed, and large collieries began to be opened in an area from ten to twenty miles east and west of Pittsburgh. The coal from these is transported to Pittsburgh and eastern and western cities for the various purposes for which the coal of the Pittsburgh seam is particularly adapted, especially in the making of gas, for which it stands unrivaled. Of these collieries there are sixty whose business offices are all at Pittsburgh. These works employ 9540 hands, to whom there is annually paid over \$3,800,000 of wages, and they mine an average of 178,000,000 bushels or 7,120,000 tons yearly.

A number of these collieries own their own cars, but the transportation facilities, as a general thing, are furnished by the railroad corporations. Among the many drawbacks to the profitable mining of the coal industry is the expensive one of labor strikes. According to the report of the secretary of internal affairs of Pennsylvania for 1887, there have been from 1881 to 1886 eighty-one distinct strikes or on an average of thirteen a year, chiefly on a question of labor, of which thirty-nine were for an increase of wages, twenty-seven against a decrease, and eight for employment of check men. Of these there was one strike of two hundred and twelve days, one of one hundred and forty days, one of one hundred and

fifty days, eleven from eighty to ninety-five days duration, four from seventy to eighty, twelve from sixty to seventy, two from fifty to sixty, eleven from forty to fifty, three from thirty to forty, fifteen from twenty to thirty. The whole aggregate number of days of the strikes is 3865 days, and an aggregate of 61,304 persons engaged in strikes, an average of forty-eight days to each strike. The strikes taking place at about thirty different points, nineteen of them being general throughout Pennsylvania. The total losses to employees were \$3,487,501; to employers \$853,154. The strikers receiving assistance from labor organizations of about \$40,000.

The immediate bituminous coal field by which Pittsburgh is surrounded, and from whence the coal trade of Allegheny county is supplied is equal to 15,000 square miles, and at a valuation of five cents per bushel or one dollar and twenty-five cents a ton, seventy-four millions of dollars a year could be realized from the coal there stored for a thousand years without exhausting the treasure.

The introduction of natural gas would seem at first glance to threaten a decadence in the coal trade of Pittsburgh. It is not unlikely it will increase the consumption of coal. The use of gas as a manufacturing fuel has so many advantages, that where gas, whether natural or artificial, can be obtained, the works will not go back to coal fuel. The use of natural gas where it is found will ultimately necessitate the use of artificial gas by manufacturers where natural gas cannot be had, and to obtain it cheaply will be not only the endeavor, but the necessity. For the production of artificial gas the coal of the Pittsburgh seam is recognized as greatly superior to all others, the residuum of coal, being in themselves not only of large value, but also in demand. The obtaining of gas from coal for manufacturing fuel will obtain, where natural gas cannot be had, and by the returns from coke and other products, the cost of this gas fuel equalized with the natural gas. The extension of manufacturing in the United States will continue. While present developments give no assurance of extensions of natural gas territory, the eighteen thousand miles of river navigation that Allegheny county commands, gives guarantee that the gas in her coal can be carried where it is required at the cheapest possible transportation cost, and it is already a demonstrated fact that the gas can be extracted from the coal, and the remainders compensate or nearly so for the cost of coal and manufacturing. Under this view the possible future growth of the coal trade of Allegheny county is more possible than its decline, and also the increased values of its coal lands.

This condense review of the coal trade of the county cannot more fittingly concluded than with the following extract from *Pittsburgh's Progress, Industries and Resources*:

"As is stated in the opening paragraph of this chapter, the bituminous coal field, by which Pittsburgh is surrounded, is estimated at 15,000 square miles, of which two-thirds are literally under the feet of Pittsburgh, or at least at her very door; and upon which she has her miners working, her capital employed, over a scope of from 50 to 60 miles east, west and south of her streets. Coal trains running, coal barges floating, steam tugs towing. The approximate value of the mineral

they are thus depleting is stated in the beginning of the chapter; and it forces an exclamation of wonder on the mention of the fact that, a little over a hundred years ago, the Penns paid but ten thousand dollars for the whole tract. To the young boy one hundred years seem comparative eternity, to the septennial as nothing, and there are men now active in the coal trade of Pittsburgh who have participated as man and boy in its activities for quite two-thirds of the years in which the coal field has increased from its ten thousand dollar cost to its present hardly comprehensible value. Pittsburgh has reason to be proud of her coal trade, hopeful of its future, and proud of the race of coal kings that its activities have developed. Hard-working, self-reliant men, the architects of their own fortunes, self-made men to whose energy and industry the coal trade of Pittsburgh owes its development, and they in their turn, to its growth, their fortunes. It is an accepted saying that he who makes two blades of grass grow where there was but one is a benefactor to mankind; and it may well be accepted that the men who furnishes labor for two men where there was but subsistence for one is equally a benefactor; and those who have built up by their perseverance the great industry of the coal trade of Pittsburgh, with its employment for thousands of men, deserves to be so honored."

Coke,

As a manufactured form of coal, is properly embraced in the sketch of the coal trade of Allegheny county. Although like coal the substance is obtained to a great extent outside the bounds of the county, yet as the capital, management, and building up of the business is at Pittsburgh, it is intrinsically a division of the industries of the county, and a sub-division of its coal trade.

The production of coke is mainly centered in the so called "Connellsville region." The peculiar character of the coal deposit there causing this. This coal bed is about fifty miles long and three miles wide, and a recent survey gives as the area of this coal yet unmined in this region at 70,000 acres. It is estimated that each acre will furnish about 5,000 tons of coke. On this basis the deposit will furnish 350,000,000 tons, which at the present rate of output will last two hundred years. The coke made from this deposit of coal is the recognized standard of the Untied States. This coal from which it is made is soft and porous and carries a very small per cent. of sulphur. It has a high percentage of carbon, great freedom from impurities. The hardness of the coke made from it, by which it has large ability to bear heavy burdens in the furnace has, as being the best furnace fuel yet discovered, driven charcoal out of use in the furnaces. Although coke was made and used in the Allegheny furnace in Blair county in 1811, also by Col. Isaac Meason in his Plumsock refinery in Fayette county, in 1817, and F. H. Oliphant made, 1836, a fair amount of coke iron at his Fairchance furnace, its use did not begin to assume a national importance until 1859, when the Clinton furnace, at Pittsburgh, of Graff, Bennett & Co. was run on coke fuel. The manufacture of coke under the oven system now in use did not begin until 1841. Previous to this the coke made by Meason and Oliphant was in open ricks on the ground. In the summer of 1841, William Turner, Jr., Provance McCormick, and John Campbell, employed James Taylor to erect two bee hive ovens on his farm on the Youghiogheny a few miles below Connellsville. After several failures a fair

quality of coke was produced in the winter of 1841-42, and by the spring of 1842 enough had been made to load two boats with 800 bushels each.

These boats were ninety feet long and built by McCormick and Campbell, both carpenters, and William Turner for pilot, were floated down the Youghiogheny, Monongahela and Ohio rivers to Cincinnati, where it was disposed of after some difficulty.

About the same time several small plants were established by Mordecai Cochran, Richard Brookins, and Col. A. M. Hill, who, in 1844, introduced an improved coke oven. The progress of coke manufacture was slow, and up to 1876 the number of coke ovens was only about 3,500, and there was not over 3,000 employees of all descriptions employed in the Connellsville region in the manufacture of coke.

The panic of 1872, which so greatly affected the iron business, necessarily reduced the consumption of coke to a minimum. With the revival of the iron trade in 1879 the demand for coke became enormous, and its price rapidly advanced until it reached the rate of \$5 per ton. Under this impetus many firms embarked in the business, and those who were previously engaged in it having realized large profits, the building of ovens was pushed so rapidly that by 1880 there was 8,000 ovens in the Connellsville region.

Under the "output" of this large increase of ovens the price rapidly declined until, in 1883, it had fallen off to 85 cents per ton, and all the coke sold at that price was, without doubt, below the cost of its production. Under this continued reduction in the price of coke it was but natural that the manufacturers of it should try to reduce the cost of the labor used in its production, and a small reduction was made in January, 1880. In February, 1880, the miners and cokers struck for 40 cents per wagon and 90 cents per oven, being over 25 per cent. increase over the wages of 1879. The strike lasted but a few days when the strikers returned to work at the old prices. In June, 1881, when the price of coke was at an average of \$1.50 a ton, the coke workers inaugurated another strike, demanding uniform wagons of thirty-three and a third bushels and one cent per bushel, and ten per cent. advance per oven for drawing. This was the first general strike in the coke region, and about 7,000 workmen were engaged in it. The demand for uniform wagons seems to be admitted on both sides, was just. The miners and cokers had, however, selected an inopportune time for their demands. The coke trade was dull and the operators indifferent about running their works. There was no violence offered by the strikers, and after a listless lockout of four weeks the strikers went to work at the old terms. The same result was, however, consequent loss to both employers and employees. About three-fourths of the ovens were idle. The cost at that time for making coke was about \$1.15 per ton, the selling price on the average, \$1.50, which would make a loss to the operators, from non-production of about \$50,000. The average daily wages of the workers was \$1.48. The loss to the 7,000 men during the twenty-five days strike was about \$194,000, being altogether \$240,000. To this should be added the loss to railroads and their employees which would swell the loss to \$275,000, at the least.

In 1882 there was a slight revival in the demand for coke, and a small expansion in the area of the ovens took place, and plants were put up on the Young wood branch. Dull times came again in the spring of 1883, wages were reduced, and a number of plants shut down. This condition of affairs continued until the latter part of 1884. To effect some change in the current of trade, by restricting production so as to meet the sluggish demand, the operators began, in the fall of 1883, an effort in that direction. It was not until March, 1884, that it took shape, and a coke pool, controlling 9,585 ovens, was formed. This syndicate acted as agent for the sale of the production of those ovens. The syndicate was not a rapid success, and although a fair control of production and prices were obtained, the trade continued but indifferent in its bulk and profits until the spring of 1885, when the iron trade of the country somewhat revived.

A slight advance in prices was secured, and a better demand arose; new ovens were built, and the output averaged nearly one thousand cars a day, and the price ranged from \$1.20 to \$1.40 per ton. With the brighter prospects came murmurings from the cokers, but the prospect of a strike did not seem imminent, as from the long period of restricted work and low wages they were not in a condition to sustain a lockout. The Huns, of whom there were many in the region, had not been saving money, and it was easy for a few dissatisfied men to persuade them that they were oppressed, and quietly a few designing men began their plotting for one of the most bitter strikes that ever occurred in Western Pennsylvania, and the Hungarians were made the positive force. The coke operators have, in the public opinion, been thought to have introduced this foreign element into the coke region, and thus been instrumental in bringing on themselves the disaster of the strike. This is an erroneous impression. The Hungarians came first into the coke districts in 1879, during the period of high prices and great demand for coke. Labor was scarce and the cokeries multiplying. An effort was necessary to obtain workmen in the other sections of the country, and a force of Poles and Germans were obtained in New York, among whom were some Hungarians. In Hungary the average wages per day is about sixty cents.

The Hungarians who obtained work at the cokeries wrote home to their friends of the large wages they were making at the coke ovens, and from that time the Hungarians began to come from their native land to the Connellsville region in numbers. While they are naturally inoffensive and respectful in their demeanor, and averse to strikes, from their great desire to save and accumulate money, yet, when once aroused, they are violent, and pay no regard to law or the rights of life and property. The coke districts had become filled with men and women of this nationality, who had obtained employment at the cokeries, for the women were workers at drawing coke and other divisions of the industry as well as the men. Their whole object being to save a thousand or so of dollars and return to Hungary, where that sum would enable them to become in a small way owners of a few acres of land, and thus being raised to the social standard of landed proprietors, be to a certain extent independent. It was from this class that the greatest

violence was experienced in the strike, and with whom the designing agitators of other nationalities worked up the riot, and brought about its consequences. The first intimation the public had of the strike was an alleged meeting at Scottdale, on Christmas, 1885. It appears since that it consisted of but two men, one of whom has since become a prominent labor agitator. At that time there was no idea, in the minds of the workers, of asking for an increase of wages, except in the thoughts of the two self-constituted delegates.

A second meeting was more largely attended on New Years day. A call for a general convention of the workmen of the cokeries to be held at Scottdale on Saturday January 16th, 1886, was circulated. When the convention met on that day there were representatives from nearly every cokery. A demand was made for ten per cent. advance in wages. The Hungarians demanding ninety cents for one hundred bushels of coal. It is proper here to remark that the veins of coal are from seven to eleven feet thick, soft and easily mined, and a large number of bushels can be mined in a day. On the same evening a telegram was sent to the syndicate, before mentioned, demanding an immediate reply. The cokers complained that they were bound by iron-clad leases, and had been robbed in the prices charged at the company's store, that their rents were too high, and that the rate of wages were as low as when coke was eighty-five cents a ton, although the price had been advanced to \$1.20 and \$1.40.

As against this the operators claimed that they had for a long period conducted their business without any profit, and for a considerable time at a loss, and that now if they were making some profit they could not afford to at once advance prices. That they had had no notice of the intention to strike, no chance to consider the subject, and the strikers were destroying their property and preventing those who wished to work from so doing. This latter claim was fully correct, as the Hungarians had inaugurated the strike two days before the convention held on January 16th, at Scottdale. On Monday the 18th the strike became general throughout the region. It was precipitated by the Huns, who had been urged up to it by the labor agitators, and it was principally a Hungarian strike. They began to drive those from the cokeries who desired to work, and to destroy tools and other property. The officers who attempted to make arrests were attacked and their prisoners rescued. The sheriff of Westmoreland county, finding himself unable to cope with the rioters, obtained from Pittsburgh a large number of policemen and quartered them in the neighborhood of Mt. Pleasant. The Hungarians encouraged by their success and frenzied by "polinke" an alcoholic drink manufactured by them, on Wednesday January the 20th, renewed their riot with great fury. A mob of some 400 men and women, armed with coke forks, knives, revolvers and clubs, marched from Mt. Pleasant to Stinerville, stopping at various points, driving away the men at work, breaking down oven fronts and throwing tools and supplies into the burning ovens. Though some resistance was offered the mob swept on beating some of the bosses severely. In the afternoon returning elated with their success they were met at Morewood by the Sheriff's posse numbering

sixty-five men, and an attempt being made to arrest some of the leaders a fight began, the mob consisting largely of Hungarian women. The Sheriff's posse made at length a final charge, and the strikers fled up the hill, making an occasional halt and firing on the officers. Fourteen prisoners were captured and taken to Greensburg. The same condition existed in the southern end of the coke district and a number of arrests were made by the sheriff of Fayette county. On Wednesday the 28th of January, a great mass meeting of cokers, to the number of several thousand, assembled at Scottdale. In the meantime the Austro-Hungarian Consul at Pittsburgh had gone to the scene of the riot, to control, if possible, his countrymen, but unsuccessfully. He read to them a correspondence between himself and the H. C. Frick Coke Company, looking to the settlement of the strikers' demands. In this he proposed that the operators should give assurances to restore the rate of wages prevailing before the last reduction, that they agree to accede to arbitration, and that Mr. Frick should personally visit the coke regions and confer with the Hungarian strikers. Mr. Frick replied,—“While they maintain this attitude of hostility they could claim no relationship to us which deserves consideration. Let them peaceably leave our employment and deliver up our property, if dissatisfied, or resume work. If they choose the latter course it will then be time enough to treat with them for higher wages. If coke business improves, as we hope it will, in the near future the price will advance, and we will then as we have always said and intended, gladly share the benefit with our employees by advancing their wages.”

Although a number of persons of influence in the region addressed the mob and others of the strikers, no progress was made in quieting the cokers, and on February 8th, 1886, another convention was held by them at Scottdale. As a delegation of three hundred and fifty strikers were passing the Henry Clay mine of the H. C. Frick Company, on their way to the convention, they attacked and drove away a number of men at work. One of the workmen, who had been terribly beaten a few days before, drew a revolver and fired on the strikers, shooting one of the delegation. His companions became violently enraged, and the whole delegation rushed to the scene, threw car slats on the floor of the engine house, saturated the building with oil, and set fire to it. The entire engine house and tipple was soon in flames, and the mob passed on to the convention. They were not arrested, and were applauded when they related at the convention what they had done. Similar acts of violence had, to a greater or less degree, been committed throughout the strike, and the whole region was terrorized. The mob collected supplies for subsistence from the people of the surrounding country, who dare not refuse. A veritable state of war prevailed, and the strikers were as an invading force living off the country they held. On February 20th the operators held a meeting at Everson, and after a prolonged consideration of the condition decided to advance the price of coke to \$1.35 and grant the demands of their employes. This news the strikers joyfully received, all except the Hungarians, who were not satisfied, and demanded the release of their countrymen who were under

arrest. After a few days, however, the work was resumed at all the cokeries. Thus terminated a serious outbreak of a completely foreign element of unnaturalized population in the United States. With a language, habits of living and of thought, foreign in the extreme to those of the section of the country where they were employed, having but a vague knowledge of the laws and no understanding of their spirit and effect, and a still cruder conception of what was meant by political liberty as exemplified under the Constitution of the United States; clanish and working but for the ultimate end of a return to their native land, with what would there to them be a competency, the Hungarians were splendid material for labor agitators to work up into a mob, and it was done successfully.

There was a disposition at the time in the public mind to think the coke operators responsible for their own losses and trouble, inasmuch as it was the generally received opinion that they had imported the Hungarians with a view to cheaper labor. It was quite the reverse. This low grade of humanity had imported itself, drawn hither by the reports written home by their countrymen of what to them were the fortunes to be in a short time realized from the high rate of wages to be had in the United States. Work being plenty and the remuneration large in the coke region, they naturally flocked there, and were pliant material in the hands of badly disposed and unreflecting advocates of labor reforms. Under the agitations and demands that are so general through the whole country in all classes of labor, most serious considerations are being forced upon the minds of the public as to the future regulations of emigration into the United States. It would seem to be foreign to the principle involved in the formation of the government to deny the people of any country the privilege of emigration to this; but it also seems that there should be some safeguard that will prevent the accumulation in the United States of masses of people of foreign birth, with no fixed idea of becoming citizens, mere swarms of locusts feeding upon the green things of the land, and to take flight to pastures new when ready. There should be some qualification of character, some qualification of education, some tangible evidence of intention to become permanent citizens, some knowledge of the constitution and the spirit of the government and its laws. Just how far the restriction should reach is a matter for discussion and study. The strike and riot of 1886 in the coke regions was most probably the result of the mass of the Hungarians that had congregated there, with no intention of becoming Americanized, uneducated as to the government of the country, ignorant of the language, and in fact that great danger to a nation, a people within a people.

It has been computated that the loss to operators and the workers by this strike was over \$550,000, there being 10,000 workmen affected by it, although the Hungarians and others especially active were not over 3,500 in number. The riotous disposition having been quieted the region resumed its normal activity, and in April, 1886, the syndicate advanced the price of coke from \$1.35 to \$1.50 per ton, and an advancement of wages was voluntarily given the workmen. Trade continued to improve and several small advances were made in wages.

On January 31st, 1887, the price of coke was advanced to \$2.00 per ton. There had been a verbal understanding that wages were to be increased when the price of coke advanced, and the cokers expected this would be the case with the advance of coke to \$2.00 per ton. It not being offered the agitation began again, the cokers demanding an advance of thirty-three and a third per cent., which they successively reduced to twenty and then to twelve and a half per cent. This the operators declining to give on the ground that there had already been four advances in the rate of wages since May, 1886, the matter was finally referred to a board of seven arbitrators, of whom John B. Jackson was umpire. Both sides laid their arguments before the board, and it was finally decided by the umpire that there should not be any further increase in wages until there was a further advancement in the price of coke. This decision, not meeting the views of the cokers, there was a general strike inaugurated on May 1st, 1887. All attempts at a settlement were, for a time, useless, until, when the strikers seemed about defeated, the H. C. Frick Company advanced the wages of their employees, because of some exceptional causes within the business of that firm, twelve and one-half per cent. The other operators firmly refused to do this, and the cokers returned to their work at the rate previous to May 1st, 1887. Thus ended the last strike to that date, which it has been estimated caused a loss in wages to workmen and in business to the operators of about \$800,000.

For all these difficulties that have been stated of fluctuating prices and strikes, the manufacture of coke has grown to a great extent and is still increasing. It is but natural that it should, as it is a substance so essential in all the transformations of ores into metals; and the coke of the Connellsville region, from its superior qualities, finds an increasing demand with the growth of the iron making, and, in fact, of all smelting processes.

There are at the present time about 13,000 coke ovens at the various cokeries in the coke regions of Western Pennsylvania, with a product, when working, of about 5,000,000 to 5,500,000 tons of coke, representing the consumption of over 200,000,000 bushels of coal.

The value of this product has been variable from various causes. Mr. Joseph D. Weeks, in his exhaustive and valuable report on coke in the Census Department, gives the average selling price of coke in Pennsylvania in 1880, at \$1.81 per ton, although in July, 1879, it was selling at \$1.15 to \$1.20 per ton, but, advancing rapidly, sold in the early part of 1880 to \$5.00 per ton. These fluctuations of values are results of demand and supply, and in 1885 coke was sold as low as \$1.05 per ton. Mr. Weeks says the cost of production, including all things, labor, materials, etc., at the best arranged works in the Connellsville region, is \$1.15 per ton; and says in his report: "The above calculation is, if anything, too low, as the investments in ovens, etc., is lost when the coal is all gone, and the cost of manufacturing will increase as the front coal is used up. This calculation is based on coal that will drain itself."

The actual cost of making coke at the Cambria Iron Company's ovens, at Morrell and Wheeler, is given in Mr. Weeks' report at \$1.49, on which he comments:

"It will be noted that this estimate of cost of manufacturing coke is considerably in excess of the first given. These two estimates from two reliable manufacturers are given for the purpose of showing how difficult it is to arrive at exact figures."

In presenting this statement of the manufacture of coke as one of the industries of Pittsburgh, the foregoing remark of an accomplished statistician can be applied as touching nearly all the details of this industrial division. The number of employees who are under wages in the 77 cokeries in the Connellsville region, in all the various departments of labor therewith connected, is about 8,000, and, while no exact figures could be had, the wages disbursed may be stated at over \$4,000,000. The ratio of the output of the ovens is, as elsewhere shown, of a fluctuating character, depending on supply, and chiefly on demand, which is governed by the condition of trade in all matters of the consumption of such articles as result from the handling of pig iron. As an approximation, it may be said that the output of coke of the Connellessville region runs, under the present production, from \$5,000,000 to \$7,000,000 a year, as regulated by the causes before stated.

The summing up of the coal trade presents the facts that there are in all the divisions thereof, including the cokeries, which are practically collieries, as they mine the coal used from their own works, 204 collieries, which employ 27,680 hands, whose wages amount to \$11,150,000; that the value of the improvements, exclusive of the cost of the coal, is \$12,600,000, and its sales value from \$22,000,000 to \$25,000,000, according to the ruling market rates of the about 430,000,000 bushels, or 17,200,000 tons, mined annually.

CHAPTER XI.

Iron and Steel Trade.

To sketch the history of iron and steel manufacturing in Allegheny county is to present a picture of all the lights and shades of manufacturing industries. It is to unroll the record of persistent combat with domestic and foreign foes of American labor, and of triumphant success, when handicapped in the race with foreign manufacturers for home markets by adverse legislation.

It is to exemplify that persistent energy and business courage before pointed out in the history of the county as characteristic of its people, and paint one of the victories of peace won by the industry, thrift and business ability of its manufacturers. There is no industry of the nation whose continued success has been more dependant on protection than the manufacture of iron and steel, nor any that has suffered so severely when free trade legislative action prevailed. Therefrom the iron manufacturers of Allegheny county have received their share of wounds, and the records of the battles fought with the trade depressions thereby produced is one

of ruined fortunes, bankrupt firms,—and among the working classes, of pecuniary distress, and at times dependant on soup houses for a daily meal. Theories are beautiful things, but practical tests of them prove their correctness or falsity. Nowhere more conclusively than in the history of Allegheny county, and in the records of the iron trade, has the correctness of protection and the falsity of free trade been so conclusively proven, and that the prosperity of the manufacturers is the field from which the masses reap their harvests. While here and there the records show that the employers have accumulated fortunes, it shows more who have lost them, but tells of thousands and thousands of workmen who have acquired homes, reared families in comfort, educated children to professions and the higher branches of the mechanical arts by the ample wages protection has enabled their employers to give. It tells of the agricultural lands of Allegheny county having acquired a value for the products for the table they never could have obtained as mere fields for the growing of corn and oats, and demonstrates how the growing up of a great population of workmen creates a profitable market for the farmer, at his door, for the yield of his field, that could not have existed were there not a great army of non-producers of agricultural products to be fed.

Slowly, steadily and persistently the iron and steel manufacturers of Allegheny county have held their course through adverse days and antagonistic legislation. Broadly and energetically pushing their industries in favorable periods, they have gathered around them armies of well paid, skillful workers, until to-day Allegheny county and Pittsburgh are synonymous names with the iron and steel in the thoughts of men in the United States, Europe and even Asia. How Allegheny county has grown to this prominence, and the details of its progress to that point, can in these pages be but briefly told. Enough can be, however, related to show the position indicated in the preceding paragraph is justly held, that protection has been the great promoter thereof, and in Allegheny county demonstrated in the most practical manner how it not only developed the resources of the country, but provides the comforts of life for the working classes, and cheapens the products from iron ores to the consumers. While these pages, intended as an exhibit of Allegheny county's hundred years of existence, can spare no space for the discussion of political economy theories, they are not inconsistent with the character of the volume, and the very record of its progress renders a verdict to those who read. Capital is so absolutely necessary to the existence and progress of manufactures that low cost of money is quite as great an advantage as low-priced labor. When Allegheny county's manufacturers first began, the labor of Europe was cheaper even than it is to-day, and its employers enjoyed an equal advantage in cheap money. To equalize these protection was a necessity, without which there was nothing that would enable the manufacturer to pay the price of labor in a new country, where its comparative scarcity enabled it to demand a higher compensation than in Europe, and the rarity of unemployed money endowed it with greater interest values. That is the whole story, and something to balance this in the contests for home markets was necessary, or the home markets must

belong to the nation with the cheapest labor and the cheapest capital, else the working masses must be forced down in their compensation to the scale of the poorly paid European. Even then, unless interest rates for capital could be also forced down to European rates, there was no equalization. In new countries capital, as history shows, money commands high rates of interest, and it is only by its accumulation that it becomes cheap.

Its accumulation is the result of the development of the country's resources. To develop these the establishment of manufactories, as all records show, is the greatest factor, for history demonstrates that it is the manufacturing nations that grow wealthy and acquire a superabundance of capital, while agricultural nations remain poor. These are but trite observations, but they are, nevertheless, great truths. Without a development of its manufacturing resources the United States must have remained but an agricultural nation, with the consequent depressed condition of its population that the low wages agricultural labor yields enforces. The spirit of its form of government, which was for the elevation of the masses, negative such a condition of labor as would prevent that.

Manufacturing became a necessity to avoid it, and protection a necessity to the establishment of manufactures where, from the nation's condition of labor and capital before stated, there could be no equality in those respects with competing countries. To that protection the creation of manufacturing in Allegheny county is due. It is, therefore, beyond question that it must continue the champion of protection, as it has always been, and equally beyond question that without protection the furnaces, forges, foundries and all their correlative industries and iron mills of which its population is so justly proud, would not have existed unless, perhaps, in some insignificant or impoverished condition. That is the lesson that is taught in the subsequent paragraphs that trace the progress during Allegheny County's Hundred Years of its iron and steel trade.

It was in 1792 that it may be said that the first marked step toward manufacturing progress was made in the county. Previous to that minor manufactories existed, or more strictly, workshops, where some of the cruder articles needed in the households of a new country were made. Although they were, in one sense, manufactures, yet not in the general acceptation of the word. In 1792, however, the first manufactory, in a more general sense, was established, and in the very direction in which the county has continued to grow. In this year George Anshutz began the erection of a blast furnace for the making of pig iron; as before mentioned in the general history, at a point about three miles east of Fort Pitt. Mr. Anshutz was born near Strasburg, Alsace, France, November 27th, 1753. In 1789 he emigrated to the United States, and soon afterwards located in the suburbs of Pittsburgh, where he built the furnace above mentioned, having been engaged in Europe in the same business.

The non-success of this enterprise and the causes are narrated in the general history of the county. After the abandonment of his furnace he became the manager of the Westmoreland furnace, owned by John Probst, near Laughlins-

town, Westmoreland county. In about a year's time afterwards, Mr. Anschutz removed to Huntington county, Pa., and became interested and part owner of furnaces there. He died at Pittsburgh, February 28th, 1837, in his eighty-fourth year. Although the furnace erected by him was abandoned for causes already stated, Mr. Anshutz is entitled to the honor of being the pioneer in the blast furnace business of Allegheny county.

Prior to or immediately subsequent to the date of Anshutz's furnace, Wm. Porter was actively engaged in the manufacture of iron implements needed by emigrants who were then in numbers embarking at Pittsburgh for settlements in Kentucky and the Northwest territory, as Ohio was then called. Just what is the exact date at which Wm. Porter established this species of manufacturing does not appear in any of the early publications. It is mentioned, however, in a statistical account of the manufactures of Pittsburgh, in 1803, published in *Cramer's Almanack*, 1804, that axes, hoes, ploughs, iron chains, etc., was made, also cut and hammered nails. As these were among the articles that emigrants would need, it may be presumed that Wm. Porter's shop or factory had been established previous to the statistical account quoted. He died in 1808, and his remains are interred in the old graveyard that surrounds the First Presbyterian Church of Pittsburgh. The next iron manufactory at Pittsburgh, was the foundry established in 1803 by Joseph McClurg. This industrial establishment is doubly historical, that in it were cast some of the cannon for Perry's fleet on Lake Erie in the war of 1812-14, also a portion of the balls for the guns. In 1807 three nail factories are mentioned in *Cramer's Almanack*, Stringers, Stewarts, and Porters, the Wm. Porter previously mentioned. About forty tons a year being stated as the product of the three factories.

In 1810 the same factories made 200 tons. The iron from which these nails were made, and that from which, about 1800, Wm. Porter made his implements, was brought over the Allegheny mountains on pack horses. Of this Rupp, in his history of Cumberland county, says: "The pack horses used to carry bars of iron on their backs, crooked over and around their bodies. Barrels or kegs were hung on either side. Col. Snyder, of Chambersburg, in a conversation with the writer, (Rupp,) in August, 1845, said that he cleared many a day from \$6.00 to \$8.00 in crooking or bending iron, and in shoeing horses for western carriers."

The nails were made partially by machine and partially by hand, and it seems to have been very slow and laborious work. Nails, however, were quite extensively made at Brownsville, Fayette county, in 1795, by Jacob Bowman, who established the first nail factory west of the mountains, where wrought nails were made by hand and cut nails by machine. Fayette county was to a large extent the forerunner of Pittsburgh in the smelting of iron, and the casting of iron hollow ware, and various of the cruder forms of iron; and the first furnace west of the Alleghenies was a furnace on Jacob's creek, which was put in blast November 1st, 1790. The first furnace in Allegheny county has been previously mentioned as that of 1792. The first rolling mill in Allegheny county was erected in 1811-12,

by Christopher Cowan, a Scotch-Irishman. He had been a clerk for Wm. Porter, and when the latter person died seems to have succeeded to his establishment. This rolling mill, which had no puddling furnaces, was on the site of the Fourth ward school house, at the corner of Penn avenue and Cecil alley. Of this mill *Cramer's Navigator*, for 1814, says:

"Mr. Cowan has erected a most powerful steam engine to reduce iron to various purposes. It is calculated for a seventy horse-power, which puts into complete operation a rolling-mill, a slitting-mill and a tilt-hammer, all under the same roof. This establishment furnishes sheet-iron, nail and spike rods, shovels, tongs, spades, scythes, sickles, hoes, axes, frying-pans, cutting-knives, vises, scale-beams, chisels, augers, etc."

In connection with the first rolling mill the following incident, as showing the contrasts between the methods of business intercourse then and to-day, is illustrative. Mr. Cowan, who had established a branch house at Nashville, under the charge of Gen. Carroll, found it necessary to communicate with him as expeditiously as possible. Reuben Miller, the father of Reuben Miller, Jr., one of Pittsburgh's most notable citizens, was a clerk with Mr. Cowan and was selected to visit Nashville. Starting on horse-back, as the most expeditious method, he rode on one horse the 700 miles in thirteen days, making what was considered a quick journey. He used to tell that frequently he rode fifty miles without seeing a house. One day, in the dusk of the evening, after such a day of solitariness, he came to a small cabin. The inhabitants were willing to shelter him but were out of provisions. That day Mr. Miller had fortunately killed a pheasant with a lucky blow of his heavy riding whip, so producing his bird, and his host some corn, which they broke up finely between some stones, and making of it some corn dodgers they roasted the pheasant and fared quite sumptuously. The contrast between the commercial traveller of to-day in palace and dining room cars, rushing along at a speed of as many miles an hour as Mr. Miller rode, with rapid riding, in one day, is illustrative of the progress of the century. Mr. Miller's journey was also a collecting tour, and he brought his collections back in "sharp shins," what seems to have been an elder brother of "shin plasters" born of the same financial necessities, and while more reliable as to intrinsic value, must have been the source of much woriment to a collector for a large firm. They frequently required two or three mules to bring home their collections. In early times collections were largely made in this peculiar currency. "Sharp shins" were silver coins cut into equal parts. A thin slip was cut out of the middle of a dollar, for instance, which slip was retained by the cutter for his trouble. Each remaining piece was cut into four parts of equal size called "levees," or eleven-penny bits, making eight levees to the dollar. Smaller pieces were cut into "bits" or "fi'penny bits," which were usually a quarter of a dollar cut into four pieces.

This, while a digression from the theme of these pages, is pardonable, that it is illustrative of those early days in which the iron trade of Allegheny county originated.

Mr. Cowan does not appear to have long operated the mill, as according to *Cramer's Almanack*, in 1814, it had been transferred to Messrs. Stackpole & Whit-

ing. In 1818, it was owned by Ruggles, Stackpole & Whiting, which firm failed in 1819. This failure was, no doubt, occasioned by the depression following the war of 1812-14, by which the prosperity of the county was greatly affected. So great was the depression that in 1819, whereas, in 1815, the manufacturing interest of Pittsburgh had a value of \$2,617,883 and employed 1,960 persons, it had, in 1819, fallen to a value of only \$832,000 employing 672 persons. The effects of this depression are further noted in the general history of the county. Some time after the failure of Ruggles, Stackpole & Whitney, their mill passed into the hands of Richard Bowen, and, in 1836, it was operated by the firm of Smith, Royer & Co. They failed in the panic of 1837-8, and the works were finally dismantled. At the time Mr. Cowan built the mill the iron manufacturing establishments in Pittsburgh seem to have been very largely increased considering the size and population of the town, which, in 1813, had but 5,749 inhabitants and there were 958 houses. In 1813 there were two "air furnaces, Joseph McClurg's, as before mentioned, and Anthony Beelen's," and one carried on by Mr. Price. This latter person was an eccentric Englishman of peculiar religious views, and many other singular characteristics.

Anthony Beelen, to whom the second air furnace or foundry is credited, was a Frenchman, justly claiming the title of Count de Beelen, of admirable business habits and enterprising characteristics. He was one of the firm of Denny & Beelen, who, in 1800, were the factors of the Ohio Glass Company, the proprietors of the second glass house mentioned in the chapter on the glass trade of Pittsburgh.

He was also, as appears from the accounts of the manufacturers of Pittsburgh in 1813, a proprietor of a white lead works. There was also in Pittsburgh in 1813, an edged tool and cutlery factory, carried on by Brown, Barker & Butler; a steam works for making shovels, spades, and sythes, by Foster & Murray; a lock factory, Mr. Patterson's; a factory for files and door handles, etc., Updegraff's; two steam engine works, one carried on by Stackhouse and Rodgers, the other by a Mr. Tustin; and a steel factory by Tuper & McKowan. The second rolling mill established in the city was the "Union," which was situated on the Monongahela near where is now the South 10th street bridge. It was built in 1818 by Wm. Robinson, Jr., John K. McNickle, Daniel Beltzhoover, and Henry Baldwin, afterwards United States Judge. It made the iron for the first Allegheny river bridge, and the making of it was the first order the firm filled. It is said that the first angle iron rolled in the United States was rolled at this mill. The mill was dismantled and abandoned in 1829.

As a clearer presentation of the progress of the chief iron industries of Allegheny county, it is perhaps better to group them in their respective classes, and proceeding with the

Rolling Mills,

The establishment of the two first of which have already been noted, the next was popularly called Grant's Hill Mill, from its location. This mill was built in 1821,

by Wm. B. Hays and David Adams, under the firm style of Hays & Adams. As the water for the use of the mill had to be hauled from the Monongahela river, it is difficult to understand why a rolling mill should have been located there. It does not seem to have been a success, nor are there any accounts of its business or the causes of its abandonment.

In 1824 Dr. Peter Shoenberger, who died in 1854 or 1856, built what is known as the "Juniata Iron Mill," on the site where it now stands, at the corner of Fifteenth street and the Allegheny river, he having been for some years previously engaged in the furnace and blooming business in Huntingdon county, Pa. He subsequently associated with him one of his two sons, and the style of the firm became P. Shoenberger & Son. About 1836 his two sons, George K. and John H., succeeded to the business, and the firm style was changed to G. & J. H. Shoenberger, and about 1857 Wm. H. Shoenberger, son of George K., of Cincinnati, was admitted as a partner, when the style of the firm was changed to G. & J. H. Shoenberger & Co.

In 1863 the style of the firm became Shoenberger & Co. (Wm. H. Shoenberger, Thos. S. Blair, Wm. Crawford, Jr., John S. Slagle, Edwin Mills and David Crawford.) In 1864 David Crawford sold his interest in the firm to his partners.

On February 1st, 1865 a firm composed of Wm. H. Shoenberger, Thos. S. Blair, John S. Slagle, Edwin Mills, Wm. Crawford, Jr., Geo. K. Shoenberger and John H. Shoenberger was formed under the style of Wm. H. Shoenberger & Co., to erect and work a blast-furnace.

In 1868, John S. Slagle and Edwin Mills retired from the firm of Shoenberger & Co. and a new firm formed under the same style composed of Wm. H. Shoenberger, Thos. S. Blair, Wm. Crawford, Jr., Chas. L. Fitzhugh, John Z. Speer, Geo. K. and John H. Shoenberger. The style of the blast furnace firm was at the same time changed to Shoenberger, Blair & Co., the partners therein being the same as those in the rolling mill, Wm. Crawford, Jr., subsequently disposing of his interest in the firm to his partners.

In 1873 a new firm under the same style of Shoenberger & Co., was formed by Wm. H. Shoenberger, Thos. S. Blair, Chas. L. Fitzhugh, John Z. Speer, Peter Shoenberger, son of Geo. K. of Cincinnati, Gotleib A. Steiner, Geo. K. and John H. Shoenberger. The firm of Shoenberger, Blair & Co., continuing with the same partners as were in the rolling mill.

On March 22, 1877, Wm. H. Shoenberger sold his interest in the firm to Peter Shoenberger, the balance of the partners remaining as in 1873.

In 1878 a new firm was organized consisting of Peter Shoenberger, Thos. S. Blair, John Z. Speer, Chas. L. Fitzhugh, Gotleib A. Steiner, Geo. K. and John H. Shoenberger, the business style of Shoenberger & Co. being continued. The firm carrying on the blast furnace being comprised of the same persons as those in the firm operating the rolling mill.

In 1883, Thos. Blair sold out his interest to his partners, and in June 1883 the style of the blast furnace firm was changed to Shoenberger, Speer & Co. The

style of the rolling mill remaining as heretofore, and the balance of the partners remaining unchanged until January, 1888, when Peter Shoenberger died.

In 1825 the Sligo Iron Works were built by Robert T. Stewart and John Lyon, and carried on under the firm name of Stewart & Lyon. In 1828 Anthony Shorb and James and Joseph Barnett purchased the interest of Messrs. Lyon and Stewart, and the mills were carried on under the firm style of Barnetts & Shorb. In 1830 John Lyon purchased the interest of the Messrs. Barnett, and the firm name was changed to Lyon, Shorb & Co., under which style the business of the Sligo Mill was prosecuted until 1872-4, when the works were sold to Phillips, Nimick & Co., under which firm style they are now operated. Anthony Shorb died in 1856, and John Lyon in 1868.

In 1828 John McNickle built the Dowlas Rolling Mill where the Kensington Rolling Mill now stands, the name of the mill having been changed to the latter title, by which name it was known in 1836, the style of the firm being Leonard Semple & Co. The mill afterward passed into the hands of Freeman & Miller (— Freeman and Alex. Miller) about 1845, by whom it was rebuilt, having been burned down in the great fire of that year. Subsequently the works passed into the control of Alex. Miller, who was succeeded by Miller, Lloyd & Black (Alexander Miller, Henry Lloyd and George Black). At some period within the foregoing dates the mill is said to have been worked by a firm styled Church & Carothers. The firm of Miller, Lloyd & Black was succeeded by that of Lloyd & Black, Alexander Miller retiring. George Black dying in 1872, the firm became Henry Lloyd, Son & Co., (Henry Lloyd, John W. Lloyd, Wm. F. Lloyd and Henry Balken.) Henry Lloyd dying Feb. 12th, 1879, a partnership was formed of Henry Lloyd, Jr., John W. Lloyd, Wm. F. Lloyd and Henry Balken, and organized under the former firm style, as it still continues.

In 1828 the Etna Rolling Mill was virtually built by Henry S. Spang, the scythe and sickle factory which was on its site having been purchased by him from H. K. Belknap, who in 1826 succeeded Belknap, Bean & Butler, by whom they were built in 1820. The works were put in operation by H. S. Spang & Son (H. S. Spang, Chas. F. Spang). Subsequently the firm became Spang & Co. (Chas. F. Spang and James McAuley). This firm continued until 1856, when the present firm of Spang, Chalfant & Co. was formed, composed of C. H. Spang, John W. Chalfant, C. B. Herron and George A. Chalfant.

In 1828 Zebulon Packard built an iron works where is now the corner of Thirteenth and Etna streets for the purpose of making shovels and nails. He was succeeded by Jesse, William and James Lippincott, and the works were styled the Lippincott Nail and Shovel Factory. The Lippincotts were succeeded by Kings, Higby & Anderson (John and — King, Wm. Anderson, a son of Colonel James Anderson, and Enoch Higby). The mill had no puddling furnace, but rolled Juniata blooms, making therefrom nails and shovels. The firm becoming financially embarrassed, Col. James Anderson bought the mill about 1839-40, and built some puddling furnaces and put up some more rolls. In April, 1845, the mill was

sold to Graff, Lindsay & Co. (Henry Graff, John Lindsay, Wm. Larimer, Jr., Christopher Zug), when the name of the mill was changed to the "Sable" Iron Works. This firm was succeeded by Zug & Lindsay, the partners being the same as the preceding firm, with the exception of Henry Graff, who withdrew. In 1857 the mill was purchased by Zug & Painter (C. Zug, Jacob Painter), under which style of firm the mill was carried on until 1864, when Zug & Painter having also previously purchased the "Pittsburgh" Rolling Mill, the firm divided, and Christopher Zug and Chas. H. Zug, under the firm style of Zug & Co., took charge of the "Sable" Mill, Jacob Painter & Sons, under that firm style, retaining the "Pittsburgh" Mill. The firm of Zug & Co. continued until 1876, when Christopher Zug, Chas. H. Zug, James Hemphill, Wm. McIntosh, Wm. Clark and T. C. Clarkson, under the firm style of Zug & Co., Limited, succeeded to the ownership. In July, 1887, Christopher Zug, Chas. H. Zug, Anthony Keating and T. C. Clarkson purchased the interest of the balance of the partners, the firm style remaining as Zug & Co., Limited, as it is at this date.

In 1829 the Wayne Iron Works were built at the corner of Tenth street and Duquesne way, by F. H. Oliphant. From him they passed into the possession of M. S. Mason, popularly called Manuscript Mason from his initials. Mr. Mason was a partner of the wholesale dry goods house of Mason & McDonough, at that time on Wood street, near Fifth avenue. From Mr. Mason, of whose associates, if he had any, in the iron business no information could be obtained, the works passed to the firm of Miltenberger & Brown, (George Miltenberger, James Brown). They were succeeded by Bailey, Brown & Co. (W. B. Brown, Samuel Bailey, Francis Bailey), and Poindexter & Co., (R. W. Poindexter and A. Culbertson); subsequently Francis G. Bailey retired and Wm. R. Brown became a partner; and that firm by Brown & Co., (John H. Brown, his sons, and Joseph S. Brown,) under which style the firm is still continued by John H. Brown, J. Stewart Brown and Henry Graham Brown—Joseph S. Brown having retired.

In 1836 Frederick Lorenz, Jacob Forsythe and James Cuddy formed a co-partnership under the style of Lorenz, Forsythe & Cuddy, and built the "Pittsburgh Rolling Mill," on the south side of the Monongahela river, in what is now the Thirty-fifth ward of Pittsburgh. This firm was succeeded by Lorenz & Cuddy, Jacob Forsythe withdrawing and Henry Sterling purchasing into the firm. Subsequently the firm style became Lorenz, Sterling & Co. Sometime about 1861, or previous, the mill property was bought by Zug & Painter (Christopher Zug and Jacob Painter). At the separation of this firm, as before mentioned in the chronology of the Sable Rolling Mill, the firm of Zug & Painter changed to J. Painter & Sons, they retaining the Pittsburgh Rolling Mills. Jacob Painter having died in 1888, the firm became J. Painter & Sons, Limited.

In 1836 Samuel H. Hartman, John Hartman and Henry Beeler, under the firm name of Hartman, Beeler & Hartman, built the "Birmingham Rolling Mill," in what was then the Borough of Birmingham, on the south side of the Monongahela river. At a period subsequent, Samuel H. Hartman, Abraham H. Hoge

and — Whitmore formed a firm under the style of Hoge, Whitmore & Co., and succeeded the previous firm. In 1841 the works were carried on by Woods, Edwards & McKnight; from this firm the mill passed into the proprietorship of McKnight & Bro., (Wm. McKnight, Joseph McKnight.) The firm afterwards became McKnight & Co.; Joseph McKnight having died, and Wm. McKnight retiring from active business. The firm ultimately succumbed under financial difficulties.

About 1830 a rolling mill was built at what is now the intersection of Robinson and Darragh streets, Allegheny, by Col. James Anderson, Wm. Stewart and Sylvanus Lothrop, under the firm and style of Anderson, Lothrop & Co. This mill was subsequently sold to the firm of Bissell, Morrison & Stephens, (John Bissell, Wm. Morrison, E. W. Stephens); subsequently, Wm. Morrison retiring or selling his interest to Wm. M. Semple, the firm became Bissell, Semple & Stephens. Subsequently, about 1835, Messrs. Semple and Stephens retiring, Mr. Stephens going to Wheeling, John Bissell associated with him his son, and the firm became John Bissell & Co. The mill was finally abandoned about 1846-8.

In 1842 Elms & Chess, (Philander Elms and David Chess), built or rather began working a small tack factory, in one room of a planing mill on 16th street, with two tack machines run by horse-power. From this grew what has been known for nearly two score years as the Anchor Nail and Tack Works. Like all the other rolling mills of Allegheny county several changes of firms have occurred in the carrying on of these works. The original firm of Elms & Chess, was succeeded by that of Campbell & Chess.

In 1854 the firm was changed to Chess, Wilson & Co., (David Chess, Robert Wilson and others,) having absorbed another tack manufacturing firm styled Billings, Wilson & Co.

In 1860, the firm became Chess, Smythe & Co., (Richard Smythe, Jacob W. Cook, Robert J. Anderson, David Chess), and they were succeeded in 1880 by Chess, Cook & Co. Robert J. Anderson withdrawing and subsequently engaged in the manufacture of steel, Jacob W. Cook and Richard Smythe having died a new firm consisting of Henry Chess, Walter Chess, Harry B. Chess, Thos. McK. Cook and G. R. Lauman was formed in 1883, under the old style of Chess, Cook & Co., which still continues in the proprietorship of the Anchor Nail and Tack Works.

These works were twice almost entirely destroyed by fire once in 1864 and again in 1866.

In 1844, Wm. H. Everson and associates built the Pennsylvania Forge, at the place where the present rolling mill of that name stands. In or about 1852-4 the forge passed into the ownership of Wm. H. Everson, Barclay Preston, Thos. K. Hodkinson and Christopher L. Graff, under the firm style of Everson, Preston & Co. At a subsequent date the firm became Everson, Macrum & Co. Mr. Hodkinson having retired and gone to Philadelphia to reside, the firm was dissolved in 1873-4. Mr. Preston, having withdrawn from the iron business, was subsequently elected president of the People's National Bank, and died May, 1887, while hold-

ing that office. At a later period the mill passed into the proprietorship of Everson, Hammond & Orr, and subsequently into the firm of Hammond, Orr & Co., Limited; while in this firm's proprietorship it was seriously injured by fire, and the firm went into liquidation.

In 1845, what is known as the "Clinton Mills," was built by Arnold Plummer and Wm. Ebbs, and operated under the firm style of A. Plummer & Co. To this firm and mill Cuddy, Jones & Co. became successors. (James Cuddy, Morris Jones, Wm. Ebbs,) In 1853, James I. Bennett, Robert K. Marshall, Wm. B. English, Edward Rahm, and W. P. Jones, formed a co-partnership under the style of Bennett, Marshall & Co., and purchased the "Clinton Mills." In 1854 the firm of Graff, Bennett & Co., successors to the previous firm, John Graff purchasing an interest, and Edward Rahm and W. P. Jones retiring,

In 1845, the Vesuvius Rolling Mill was built by Robert Dalzell, James Lewis and others near Etna borough, and operated under the firm style of Lewis, Dalzell & Co. Owing to financial difficulties the works passed into the ownership of John Moorhead, and subsequently the works were put in operation under the style of Moorhead Bros. & Co.

In 1846, Wm. Coleman, James Hailman and Samuel H. Hartman built the Duquesne Spring Steel Works, and operated the same under the firm style of Coleman, Hailman & Co. These works were subsequently remodeled into a rolling mill, under the management of the firm of Hailman, Rahm & Co., at which time the mill was on 16th street. The firm finally dissolved, some of the partners having died, and the machinery was sold, some of it being taken to Erie, Pa., to form part of a rolling mill in that city.

In or about 1849-50, a number of rolling mill workmen who had lost their positions in other mills through participation in the labor strikes and riots of 1849, built a small rolling mill at Millvale, which was called the Mechanic Iron Works. This mill subsequently passed into the possession of Stewart, Lloyd & Co., (Thos. Stewart, Alfred Lloyd,) and from them to Lorenz, Stewart & Co., (Frederick Lorenz, Robert Stewart, James Grey,) when it became known as the "Lorenz Rolling Mill." The firm was financially unfortunate and the mill was purchased, in 1861, by Graff, Bennett & Co., by whom it was enlarged from time to time, and in 1886-7, almost entirely rebuilt.

In 1851 W. Dewees Wood erected the "McKeesport Rolling Mill," at McKeesport, for the purpose of manufacturing a special kind of planished or Russia sheet iron, under a patent granted to James Wood, the grandfather of W. Dewees Wood, and under an improvement made by J. Wood Brothers, in 1844. The imitation of Russia sheet iron made by this establishment, although equal in appearance to the imported Russia article, would not resist the action of the atmosphere as well.

This difficulty was partially overcome in 1861 through improvements by W. D. Wood. Other improvements were patented by him in 1865, '67, '73, '74, '76 and '78; but the required result was not fully attained until 1883.

The growth of this important branch of Pittsburgh's manufactures is the result of forty years' experimenting and study upon the part of the inventor; and this city is the only point in the country where an article of planished sheet iron is produced fully equal, if not superior, in all respects to the best Russian iron, and which is so endorsed by all the master mechanics of the railroads, locomotive builders and stove dealers throughout the country.

Like other mills, the McKeesport mill has been operated by various firms Wood, Moorhead & Co. (W. Dewees Wood, M. K. Moorhead, Geo. F. McCleane), then Wood & Lukens, who was succeeded in 1871 by W. D. Wood & Co., and that firm in 1884 by W. D. Wood & Co., limited (W. D. Wood, and his sons Richard G., Allan W. and Thos. D. Wood).

In 1852 the American Iron Works, now the largest in Pittsburgh, was established under the firm style of Jones, Lauth & Co. (B. F. Jones, Bernard Lauth); in 1853 they purchased the Monongahela Iron Works, at Brownsville, which they ran for about a year and then dismantled, transferring the machinery to the American Iron Works, at Pittsburgh. In 1854 James Laughlin purchased an interest in the works, Mr. Lauth retiring, and the firm name was changed to Jones & Laughlin. In 1883 the firm became Jones & Laughlin, limited, B. F. Jones, chairman; Geo. M. Laughlin, secretary-treasurer; Thos. M. Jones, general manager, Mr. James Laughlin dying December 18, 1882. In connection with this mill it is proper to state that it produces an article made nowhere else in the world, known as cold rolled polished shafting, being a special product of the American Iron Works. These works, like many other of the iron works, in the change that is gradually going on in the use of steel in the place of iron, has also embarked in the making of steel.

In 1856 there were in Allegheny county twenty firms engaged in the rolling mill business, having twenty-five mills and two hundred and sixty-two puddling furnaces, 165 heating furnaces, 448 nail machines, producing 699,762 kegs of nails in that year, 10,000 boxes of tacks, 77,000 tons of rolled iron, and other articles to the value of over \$11,000,000. They employed 4,632 hands, to whom they paid wages yearly to the amount of \$2,366,000, and the capital invested in grounds, buildings and machinery was something over \$4,000,000.

The comparative increase from 1810 to 1856 the following statistics show: In 1810 there were sold in Pittsburgh 4,900 tons of bar and steel iron—but none made, it being brought from points to the eastward across the mountains. In 1829 there were, according to the *Pittsburgh Gazette*, eight rolling mills, using 6,000 tons of blooms, 1,500 tons of pig metal, and employing 300 hands. In 1831, according to *Peck & Tanner's Guides* of that year, there were but six rolling mills, the value of whose products was about \$274,000. This is probably an erroneous estimate.

In 1836, according to *Lyford's Western Directory*, there were nine mills, using 28,000 tons of pig metal and blooms, employing 1,000 hands, and producing manufactured iron to the value of \$4,160,000. In 1850, according to *Fahnestock's Directory*, there were in Pittsburgh thirteen rolling mills, with a capital of five millions

of dollars, employing 2,500 hands, consuming 60,000 tons of pig iron, and producing bar iron and nails to the value of \$4,000,000. In 1864, according to Chas. A. McKnight, there were nineteen rolling mills in Pittsburgh, with 176 puddling ovens, 121 heating furnaces, with 253 nail machines, consuming 98,850 tons of metal, and employing 2,720 hands. The statistics of 1856 are as before stated. These figures show an increase in seven years, from 1829 to 1836, of a small per cent. in number of mills, but about 300 per cent. in amount of metal used,

From 1836 to 1856, a period of twenty years, there is an increase of over 100 per cent. in the number of mills, and about 300 per cent. in amount of metal used; and a similar increase in the number of hands employed, and not quite 200 per cent. in the values of products. This latter item is hardly a fair criterion of the progress, as fluctuations in prices might reduce the per centages of total values even on increase per centages of production. The entire exhibit is, however, evidence of the rapid progress Allegheny county was making in this great staple of her manufactures.

From 1856 to 1883, another period of twenty-seven years, the number of the iron mills of Allegheny county increased another 100 per cent.

In 1857 the Glendon Mills were built by Porter, Rolfe & Swett, near Sixth street, South Side. Through various changes in the firm from the death of the original partners, and an interest in the firm being purchased by Joseph Dilworth, the firm became Dilworth, Porter & Co., and afterwards Dilworth, Porter & Co., limited, under which title the works are now carried on. In 1859 the Soho Iron Works were built by Moorhead & Co., under which style they are still operated.

In 1861-2 the Lower Union Mills were built by Kloman & Phipps, which firm was organized September 1st, 1861, and afterwards sold to the "Union Iron Mills," incorporated May 1st, 1865, who were succeeded by Carnegie, Kloman & Co., which firm was organized January 1st, 1871. From this firm the works passed into the ownership of Wilson, Leggate & Co., organized January 1st, 1873, and from that firm to Wilson, Walker & Co., organized January 1st, 1875, which firm became Wilson, Walker & Co., limited, January 1st, 1882, and by that firm the Lower Union Mills were sold to Carnegie, Phipps & Co., limited, January 1st, 1886.

The "Upper Union Mills" were built in 1864 by the Cyclops Iron Co., organized July 1st, 1864, by whom they were sold to the Union Iron Mills, incorporated May 1st, 1865, by whom they were sold to Carnegie, Kloman & Co., organized January 1st, 1871, and by them to Carnegie Bros. & Co., organized April 1st, 1875, and by them to Carnegie Bros. & Co., limited, organized April 1st, 1881, and by them to Carnegie Phipps & Co., limited, organized January 1st, 1886.

In 1871 the Lucy Furnaces were built by Kloman & Carnegie Bros., organized December 31, 1870, by whom they were sold to the Lucy Furnace Co., organized April 1st, 1875, and by that company to Carnegie Bros. & Co., limited, organized April 1st, 1881, and by that firm to the Lucy Furnace Co., limited, organized June 1st, 1881, and by it to Carnegie, Phipps & Co., limited, organized January 1st, 1886. As a clearer presentation of the chronological record of what is popularly

termed the "Carnegie plants," and thus giving the reader a verbal bird's-eye view of what is a remarkable illustration in virtually one firm's establishment of the growth of the iron and steel industries of Allegheny county, the genealogy of the additional mills and correlative works in the Carnegie association is here noted; although some of them would more correctly find place in the account of steel manufacturing, but are grouped here for succinctness.

In 1873 the Edgar Thomson Steel Works and Blast Furnaces were founded by Carnegie, McCandless & Co., which firm was organized January 13th, 1873, who sold their partially constructed plant to "The Edgar Thomson Steel Co., Limited, which was organized October 10th, 1874, under which firm style the works were operated until they were sold to Carnegie Bros. & Co., Limited, an association organized on April 1st, 1881. In connection with this immense plant, as adjunct to its operations is the Larimer Coke Works, built by Carnegie & Co., a general partnership organized April 1st, 1871, which cokery was sold to Carnegie Bros. & Co., Limited, April 1st, 1881. The Youghiogheny Coke Works built in 1888 by Carnegie Bros. & Co., Limited; and also the Scotia Ore Mine of Carnegie Bros. & Co., Limited, established 1881. In 1880 the Homestead Steel works were built by the Pittsburgh Bessemer Steel Co., Limited, which was organized October 22d, 1879, and sold to Carnegie, Phipps & Co., Limited, January 1st, 1886. The Carnegie Natural Gas Co., which, under the adoption of gas fuel, became a consequent adjunct to the foregoing works, was incorporated March 10th, 1886, own and operate wells in Murraysville and Grapeville gas fields, conveying the gas from thence in ten, twelve and sixteen inch pipes towards Pittsburgh, supplying enroute, the Edgar Thomson Steel Works and Blast Furnaces, at Braddock, and the Homestead Steel Works, at Munhall. Of these "Carnegie plants," Carnegie, Phipps & Co., Limited, own and operate in 1888, the centennial year of Allegheny county, the Lucy Furnaces, the Upper Union Mills, (steel and iron,) the Lower Union Mills, (steel and iron,) the Homestead Steel Works, Carnegie Bros. & Co., Limited, the Edgar Thomson Steel Works and Blast Furnaces, the Larimer Coke Works, the Youghiogheny Coke Works, and the Scotia Ore Mines. In addition there is controlled by the Carnegie capital, the Hartman Steel Works, built in 1882-3 by the Beaver Wire Co., and sold March 1st, 1883, to the Hartman Steel Co., Limited, consisting of two wire mills, a steel rolling mill, a rod mill, and wire nail factories. The American Manganese Co., Limited, which operate the Crimora ore mines in Augusta county, Va., and the Old Dominion ore mines adjoining, opened in 1883 by J. B. White & Co., and sold in 1885, to the American Manganese Co., Limited, which was organized February 2d, 1885. Also the controlling factors in the ownership and management of the Keystone Bridge Co. The Carnegie interests mentioned above represent a capital of upward fifteen millions of dollars.

Returning to the regular chronological sequence it appears that, in 1862, Lindsay & McCutcheon began operating the Star Rolling Mill, and still continue. In 1862, Reese, Graff & Dull built the Fort Pitt Iron & Steel Works, at the foot of

Thirty-third street. The firm subsequently became Reese, Graff & Wood, and after some other changes the works passed into the occupancy of Graff, Bennett & Co., and where by them sold to the Carbon Iron Co. In 1863, the firm of Byers, McCullough & Co., built an iron mill for the making of iron pipe chiefly, which firm, a few years afterwards, became A. M. Byers & Co.; under which style the firm still continues. In 1863, the Ormsby Iron Works were built by Wharton Bros. & Co., near South Thirty-second street; not being successful the buildings were bought after some years by the Republican Iron Works Co., Limited, were improved and enlarged and are by that company now operated.

In 1864, Lewis, Oliver & Phillips, (W. J. Lewis, Henry W. Oliver, Jr., Jas-Oliver, David B. Oliver,) built the Monongahela Iron Mill, and in 1866, the Allegheny. The firm subsequently changed to Oliver Bros. & Phillips, under which title the mills are now operated, W. J. Lewis retiring. In 1864, the Pittsburgh Forge & Iron Co. put up a large iron works in Allegheny city, by which company they are still run. In 1864 the Pittsburgh Bolt Works were built by the Pittsburgh Bolt Co., but becoming financially embarrassed about 1877, the works passed into the hands of assignees.

In 1865 the Keystone Iron Mill was built by Glass, Neely & Co., but that firm becoming financially embarrassed the works passed into the hands of assignees and were purchased by the Elba Iron Bolt Co. This firm also becoming embarrassed after an interval, a new company was formed with fresh capital, and under the same title the works are still operated. In 1869, Lewis, Clark & Co. built the Solar Iron Works at Thirty-fifth and Railroad streets, which firm subsequently became Wm. Clark & Co., Mr. Lewis retiring, when the firm became Wm. Clark's Sons & Co., Limited, under which style the works are now operated. In 1873 the U. S. Iron & Tin Plate Co. built works at a point near Port Perry, Allegheny county. The works were burned in 1883, and were rebuilt and now operated by the same company.

In 1876, Kirkpatrick & Co. built the Leechburg Iron Works. In 1877, Long & Co., the Vulcan Iron Works. In 1881 the Spang Steel & Iron Co., Limited, was organized, C. B. Herron, chairman; John C. Porter, secretary and treasurer; and Geo. A. Chalfant, manager. In 1883 the Chartiers Iron & Steel Co., Limited, their works, and the Cannonsburg Iron Co., theirs. In 1886 there were at Pittsburgh thirty-five firms carrying on the rolling mill business, so to be designated for want of a more distinct title, as iron business is a generic term for the whole range of iron metal and their manufactures.

For various causes complete statistics of their product is not only difficult but seemingly impossible to obtain. As near as could be collated, and it is thought to be a close approximation, the product of these mills is over 550,000 tons. The capacity of these mills is set down as reputed, at over 766,000 tons a year. This, it will be observed, is exclusive of the steel and rail mills.

The area of ground occupied by these mills in the usages of their business, is 138 acres, employing over 18,000 hands in all the departments of labor, whose

wages would average, as nearly as could be arrived at in round numbers, from \$11,000,000 to \$12,000,000. Owing to the reluctance among firms to make any exposition of the details of their business, and questions arising out of labor disturbances, the exact statistics of disbursement of wages are not to be arrived at, but the figures given are probably a close approximation. Of the capital employed in this branch of Pittsburgh's industries in the prosecution of the business thereof, is an item that could not be consistently asked, or expected to be given. Some idea may be had by the capital in the plants of these 35 rolling mills, viz: ground, buildings and machinery which is computed at between \$17,000,000 and \$18,000,-000. Or an investment of that large sum, which unless the mills are running, is virtually sunk and non-productive. The value of the product of these mills is also a matter upon which no absolute statistics can be given, because of the fluctuations in values constantly arising from various causes. Neither can those values be based on past returns for the same reason. Then there are specialties made by especial mills, whose prices are not regulated by any fixed market rate made by the competitors for the general trade, but regulated by the circumstances surrounding their production.

Taking the value of the about 700,000 tons of metal consumed by these mills, the estimated amount of wages paid, together with all the other outlays of manufacturing, and allowing but a very small per cent. of margin over cost of production, it is probable that the value of the out-put approximates \$36,000,000 either something above or below.

The kinds of goods manufactured are merchant bar, hoop, band, boiler plate, tank and sheet iron, wrought iron pipe and boiler tubes, railroad spikes, nails and tacks, horse shoes, galvanized sheet iron, and light plates, skelp iron, axles, railroad specialties, bridge rods, angles, and peculiar shapes.

The making of

Steel in Allegheny County

is a triumph of the Pittsburgh manufacturer. On this claim "Pittsburgh and Allegheny in the Centennial Year" (1876) says:

"The progress of this industry at Pittsburgh is full of triumphs, not only over the difficulties of its production, but over foreign manufactories in the quality of the product. If republics were grateful, or it was in the old Roman days, when civic wreaths were voted as marks of distinction and compliment to public benefactors, Pittsburgh steel manufacturers would be thus decorated. For here and by them has, in the establishment of the manufacture of steel, a great industrial and commercial victory been won. By their pluck, perseverance and business acumen the country has been emancipated from dependence upon foreign steel makers and placed in an independent position, so far as the supply of that article is in question, whether for the arts and usages of peace or the sterner demands for national defence."

And further, in "Pittsburgh's Industries, Progress and Resources" (1886), is said :

"The effort to make fine crucible tool steel had about been abandoned in the United States, when Pittsburgh manufacturers achieved a success and produced

an article with which they were able to enter the market in successful competition with English makers. To-day Pittsburgh steel is *the* steel of the American market."

The effort to make steel seems to have been, early in the history of the country, made in the American colonies. In 1655 John Fricker, of Southold, Long Island, informed the general court of New Haven of his intention to make steel if he may have some things granted him. In 1782 James Higley, of Sunbury, and Joseph Dewey, of Hebron, Connecticut, represented at the Legislature of that State that they had found a way to transmute iron into steel, asking an exclusive right, and obtained a patent from the State for ten years. In October, 1740, the Connecticut Legislature granted Messrs. Fitch, Walker & Wyllis the sole privilege of making steel for fifteen years. Previous to 1750 Aaron Elliot owned a steel furnace at Killingsworth, Connecticut. In 1750 Massachusetts had one steel furnace, and Pennsylvania had two at Philadelphia. There was one also in New Jersey, and one in Chester county, Pa. In 1787 the making of steel was carried on in Easton, Mass., by Eliphalet Leonard. In 1776 Peter Townsend produced the first steel made in the State of New York. At Amenia steel was made in Dutchess county, N. Y., for the Continental army, and also in Trenton, N. J., and steel bayonets were made at Elkton, Cecil county, Md. In 1791 Alexander Hamilton, in his celebrated report, states that "steel is a branch which has already made considerable progress." In the same year French Coxe stated that about one-half the steel used in the United States is home made. In 1805 there were two steel furnaces in Pennsylvania, producing annually 150 tons of steel. In 1810 there were 917 tons of steel made in the whole country, of which Pennsylvania produced 531 tons in five furnaces. In 1813 Tuper & McKowan had a steel furnace at Pittsburgh, which was the first at Pittsburgh, although at Bridgeport, adjoining Brownsville, Fayette county, there was in 1811 a steel furnace known as the Brownsville Steel Factory, carried on by Truman & Co. For the foregoing data in relation to the early efforts to make steel in the United States the writer is indebted to "Swank's Iron in All Ages," a comprehensive and valuable work, written with great care.

The steel produced in the establishments quoted was of the grade called blister or German steel. Although, as previously mentioned, there was a steel works at Pittsburgh as early as 1813, there are no records of any production of what would then be called steel there, or mention of any attempt to make it, although, possibly, some experiment may have been made. Whatever steel was produced by Tuper & McKowan was probably a low grade of blister steel. Of the steel factory at Brownsville, Wm. Darby, in an "Emigrant Guide," published in 1778, says:

"At Brownsville many years past a steel factory has been established, which has been a success."

Of the early manufacture of steel at Pittsburgh, the following extract from "Pittsburgh and Allegheny in the Centennial Year" says:

"The introduction of blister steel made at Pittsburgh was attended with considerable difficulty. Consumers could not be made to believe that the blister steel of Pittsburgh was in any way equal to that brought across the Atlantic, although expert workmen were sent to visit consumers to prove to them the fact. It was only after Pittsburgh blister steel, which had been rusted by throwing salt water over it, so as to make it appear of English manufacture, was sold to consumers that it was found to be all that could be desired."

The gradual progress of making steel at Pittsburgh is so fully told in the subjoined extract from Pittsburgh's Progress, Industries and Resources (1886), that it is here quoted in preference to a recapitulation of the same facts.

"In 1841 Patrick and James Dunn began making steel for J. H. Shoenberger. The works erected by them had some twenty holes or furnaces but six only were used steadily. The enterprise was abandoned in the course of a year or so. Somewhere about this date a firm under the style of Tingle & Sugden began making cast steel on a small scale for their own use in manufacturing files, in which they were engaged. In 1845 Isaac Jones and —— Quigg, under the firm style of Jones & Quigg, built the Pittsburgh Steel Works and began the manufacture of blister spring and plow steel, in which line Coleman, Hailman & Co. at the same date embarked in the business.

"From about 1844 most of the iron manufacturers of Pittsburgh made blister and plow steel, but Coleman, Hailman & Co. and Jones & Quigg were the only two establishments that could then be classified as "steel works." These establishments in making cast steel, although producing it to a considerable extent, failed to make a first class article. The isolation of Pittsburgh from labor skilled in that line of treating metals and various other difficulties, made the production of a bar of good quality more the result of accident than skill. Though the producers of steel and for a considerable period afterward made occasional batches which nearly approached a first-class grade, the chief quality of a good article, reliability, was wanting. That quality is now the great characteristic of Pittsburgh steel.

"In 1848 a new firm, Singer, Nimick & Co., now among the heaviest steel producers of Pittsburgh, was formed for the production of blister spring and German steel, and in 1853 turned their attention to the making of cast steel, for saws and agricultural purposes, and having largely increased their works began the manufacture of the finer grades of steel.

"A year previous to this, however, the firm of McKelvy & Blair, which retired from the business in 1854, made hammered and rolled steel, and introduced it into the eastern markets. This firm was formed in 1850 to make files on a large scale, and began the making of steel for their own file works, but, as stated, in 1854 entered the field as makers of hammered and rolled steel for the general trade, and retired from financial causes in 1854.

"Two years after, when Singer, Nimick & Co began the production of the finer grades of cast steel, Isaac Jones, the successor of Jones & Quigg, also commenced making it. From 1851 up to 1860 the manufacture for the higher grades of cast steel for saws, machinery and agricultural purposes, occupied the attention of the Pittsburgh steel manufacturers. Although in these classes of steel great success was attained and a reputation for those steels made for Pittsburgh, yet the conviction was strong among the firms carrying on the business that a yet higher standard was to be attained, and Pittsburgh becomes a formidable rival in edge tool steel to the English manufacture. This feeling led to the formation in 1860 of the firm of Hussey, Wells & Co., now Hussey, Howe & Co., for the express purpose of manufacturing cast steel for edge tool purposes; (this firm became, in 1888, Brown,

Howe & Co.); and the firm of Singer, Nimick & Co. at that date turned a part of their force of steel makers into the same direction. In 1862 the firm of Park Brothers & Co. was formed for the same object, which firm has continued in the same line and style until recently, when it became Park Brothers & Co., Limited. These were followed in 1865 by Barr & Parkin, now Miller, Metcalf & Parkin, manufacturers of high grades of tool steel. The results have been a complete victory of the Pittsburgh steel manufacturers over foreign makers, and to-day Pittsburgh steel is the standard of the market, and has supplanted that of English make in the edge tool factories of the United States. The very best qualities of English tool and cutlery steel being more than equalled by that produced in the steel works of Pittsburgh.

"To what yet higher perfection the making of steel under the use of gas fuel will be brought, under the enterprise and ambition of Pittsburgh steel manufacturers, is yet in the future. When such success as has been recorded has been achieved in the past, what may not be reasonably expected in the future. Whatever higher qualities are attainable in steel the past is a guarantee that they will be put into its composition by the skill and perseverance of Pittsburgh's manufacturers.

"In the 34 years since the effort was made to manufacture cast steel in the United States to any extent, the facts show that our manufacturers have secured nearly all of the American market, and that the quality and finish of American steel is conceded to be fully equal to any imported. In the article of homogenous crucible cast steel boiler and fire plate, that made by the Pittsburgh manufacturers is unequalled. Shipments of this description of steel that have been made from Pittsburgh to railroad companies and steam boiler manufacturers across the Atlantic, has been pronounced superior in every respect to any produced in Europe."

The making of various qualities of various grades of steel, other than crucible, has become part of the business of a large proportion of the rolling mills. It would make but a perplexing tangle of dates and names to indicate by what iron making firms, and just when, the manufacture of steel was by them made a feature of their business, and a genealogy of the firms would be almost a repetition of those previously recorded of the iron firms. The style of the firms who were pioneers in steel manufacturing having already been mentioned in the extract quoted from the publication of 1886.

In addition to the crucible steel works already noticed, in 1882 Anderson, Dupuy & Co. built the Pittsburgh Steel Works for making that description of steel, also the Linden Steel Co., Limited, a steel works the same year, and the Sterling Steel Co., Limited, a plant about 1884.

In the progress of steel manufacturing in Pittsburgh the low duties on steel were great discouragements; and even with the amendments that had been made from time to time it is questionable if, without the accidental high tariff produced by the increased rates of gold during the war, the manufacturers of edge-tool steel would have succeeded. The fact suggests the natural inquiry: If the country affords the material that produces steel that has nothing to fear by comparison with the best sent from English works, and if, in attaining that point, labor has also been educated to a degree of skill that insures such success, why not give American manufacturers the benefit of the American market, and the ores of the country

the advantages of further experiments among the great variety existing? Is there any reason why the art of steel making, having through numerous difficulties become one of the fixed facts belonging to the resources of the nation, should not be encouraged to greater efforts?

Our legislators if they would find the policy best adapted to spread prosperity over the land, should carefully take up the histories of the industrial pursuits of the American people, and learn how the fostering of them by protection has developed the resources of the nation, and given employment and homes to the people. Not only that will be found, but that in all cases the result of home competition has been to reduce the cost to the consumer of those articles where protection against foreign manufacturers has been accorded. Cast steel is an instance, and in proof of this fact Pittsburgh steel is being furnished of equal qualities to English steel at rates much below what was formerly paid for the foreign article.

There are now in Pittsburgh 23 steel works, of which 8 are strictly crucible tool steel works. The reported capacity of all of them for the production of steel is given at 215,700 tons. As this virtually agrees with the returns of the same mills to the American Iron and Steel Association, it is probably correct. This is exclusive of the Bessemer plants and rail mills and the steel casting works.

The complete statistics of this class of Pittsburgh industries cannot be here given, from a reasonable and natural reluctance to open up the details of their business to be found elsewhere as well as at Pittsburgh. From such data as could be obtained the figures of the estimates are given. In the matter of the product of crucible steel figures given show that in round numbers about 48,000 net tons are turned out, the capacity reported being 102,000 tons. By the statistics collated from the steel manufacturers by the American Iron and Steel Association 42,139 net tons of crucible steel ingots is given as the output of 1885, which probably amount closely to 50,000 tons in 1888. In that, as in the data collated for this volume, there were probably declinations to furnish information. In either case it is fair to assume that the product given is below the actuality, although it necessarily varies with the condition of trade from year to year, and the capacity of the works is the best factor for their possible output of steel. The fluctuations are shown by the following figures from a report of the American Iron and Steel Association, before cited, and may be the result of varying conditions of trade, or the reluctance before noted to give details of business. From that report it would appear that the make of crucible steel ingots was for

1874, . . .	17,915 tons.	1878, . . .	27,866 tons.	1882, . . .	59,596 tons.
1875, . . .	22,942 "	1879, . . .	40,142 "	1883, . . .	59,128 "
1876, . . .	25,009 "	1880, . . .	52,136 "	1884, . . .	38,885 "
1877, . . .	24,747 "	1881, . . .	61,256 "	1885, . . .	42,139 "

From this it would appear there was a steady increase for nine years of the twelve cited, in which time there was an increase of nearly 250 per cent. In the two succeeding years a decline of not quite 3 per cent., and in the succeeding year a decrease of nearly 33 per cent., a showing of decline of output hardly attributa-

ble to trade fluctuations, and more probably caused by incomplete returns. By this notably the statistics of the output for 1885, as collated at that date, are dwarfed, but as they are in reasonable sympathy with those of the Iron and Steel Association report, it is to be assumed that the same causes work in its data. These statistics, it will be noted, are only those of crucible steel. A report of Mr. Gilbert Follansbee to the Bureau of Statistics of the Treasury Department gives the whole product of steel at Pittsburgh in 1882 at 211,417 tons, of which 139,073 tons were steel rails and 73,344 tons other forms of steel, and the value of the product for that year is named at \$18,378,836.

The reluctance from fear of exposure of details of private business, as before noted, to furnish the data, prevents *absolute* data of the values of the output of 1888. Taking, however, the 48,000 tons of crucible steel as previously named, the value would be at present rates from \$8,000,000 to \$8,500,000, and proportionately greater as the actual output is to the approximate data obtained, of crucible steel only.

In the tabulated list of steel works and rolling mills producing steel there are several whose statistics of hands employed, wages, area, value of plant, etc., are included in the data of the iron rolling mills, and should not be here repeated. There are in the exclusively steel producing works now at Pittsburgh, whose statistics are not included in those of the iron mills, an average of 4,500 hands employed, whose wages will average from \$3,500,000 to \$4,000,000 a year. The area of ground covered by these strictly steel works is about 65 acres, and the value of the plants, viz.; ground, building and machinery, is estimated at between \$6,000,000 and \$7,000,000.

It is difficult to compress into the few pages that can be spared in this condensed sketch of Allegheny county's hundred years the full history of its experiments in steel making. Of the triumphs in crucible steel enough has been stated, briefly as it has been done, to inform the reader of its growth and its present status.

It has not, however, in crucible steels alone that great strides have been made in the manufacture of steel in Allegheny county. In Bessemer steel great progress has been made, and a large output reached. There are now in Pittsburgh the following establishments having Bessemer steel works erected in the order of their naming:—

Edgar Thomson Steel Works, first blow 1875; Carnegie, Phipps & Co., first blow 1881; Pittsburgh Steel Casting Co., first blow 1881; Oliver Bros. & Phillips, first blow 1884; Jones & Laughlins, 1886; Shoenberger & Co., 1886. The entire product at the present time is about 400,000 tons.

The growth and the present bulk of the steel product of Pittsburgh seems almost incredible when we recall how but a few years since the steel of the Pittsburgh mills was struggling for a recognition even among the mechanics of the city. Sufficient has herein been written to enable a satisfactory idea of the progress to be had, and an opinion to be formed as to Pittsburgh's greatness in the future as a steel producing center. Its present value in all its departments of steel

manufacture is from \$22,000,000 to \$25,000,000, and might possibly sum up yet more if full statistics could be had.

As mentioned in the pages of the general history of the county, the first step in the direction of making the famous iron manufacturing center it is, was the building of the blast furnace of 1792. It seems singular that over sixty years should have elapsed before another blast furnace was erected in the county; since then,

Blast Furnaces

have become a prominent feature in the progress in iron making in Allegheny county. The development of the Connellsville coke region, elsewhere exhibited, has had much to do with this, while in reaction the growth of the blast furnace industry has stimulated the making of coke. This is illustrative of how comprehensive accumulations of resources at any point creates aggregations of power, and forcibly presents the position before taken, that in eighty years Pittsburgh has developed so powerful and varied manufacturing powers as to render her impregnable as a controller of the market, even if at a future day some other location with as great manufacturing resource *should* be found. From the very aggregation of facilities and resources Pittsburgh has acquired her magnetic force will increase, while another location of similar natural force, if any there be, must be long years accumulating Pittsburgh's present facilities, during which it must be compounding upon its powers.

There are now at Pittsburgh the following blast furnaces:

Built.	Names.	Owned by.	Height.	Bosh.	Capacity.
					Net tons.
1859,	Clinton,	Graff, Bennett & Co.,	45	12	15,000
1861,	Eliza No. 1,	Laughlins & Co.,	60	17	60,000
1861,	Eliza No. 2,	Laughlins & Co.,	60	14	
1862,	Edith,	National Tube Co.,	70	16	35,000
1865,	Shoenberger, No. 1,	Shoenberger, Speer & Co.,	62	13½	48,000
1865,	Shoenberger, No. 2,	Shoenberger, Speer & Co.,	62	13½	
1872,	Isabella No. 1,	Isabella Furnace Co.,	75	18	130,000
1872,	Isabella No. 2,	Isabella Furnace Co.,	75	20	
1872,	Soho,	Moorhead, McCleane Co.,	65	19	40,000
1872,	Lucy No. 1,	Carnegie, Phipps & Co., Ltd,	87	20	130,000
1877,	Lucy No. 2,	Carnegie, Phipps & Co., Ltd,	87	20	
1879,	A,	Carnegie Bros. & Co., Ltd,	65	13	25,000
1879,	B,	" " "	80	20	55,000
1879,	C,	" " "	80	20	55,000
1881,	D,	" " "	85	20	57,500
1881,	E,	" " "	85	20	57,500
1883,	Carrie,	Pittsburgh Furnace Co.,	70	18	40,000
1886,	F,	Carnegie Bros. & Co., Ltd,	85	20	57,500
1886,	Eliza No. 3,	Laughlins & Co.,	60	17	30,000
1887,	G,	Carnegie Bros. & Co., Ltd,	85	20	57,500

From this it will be noted that where in 1859-61 the capacity for pig iron production at Pittsburgh was 75,000 tons, it had increased in 1886 to 835,000 tons, or over one thousand per cent. Of that, in the four years from 1861 to 1865, the increase was about 65 per cent. In the seven years from 1865 to 1872 there was an increase in seven years on the capacity of 1865 of about 214 per cent., and on the capacity of 1871 of 350 per cent. In the seven years from 1872 to 1879 the increase on the capacity of 1872 was about 60 per cent., and on that of 1861 of 600 per cent. In the seven years from 1879 to 1886 the increase on the capacity was about 40 per cent., and on that of 1861 over 1,000 per cent. In these increases in capacity in septuple periods it should not be overlooked that the percentages are calculated at each recurrence on immensely increased multiplicands indicating great activity when such large percentages are continued on continuously increasing capacities.

There are also, having offices at Pittsburgh but the furnaces in the vicinage, the following additional furnaces, which are virtually a portion of the blast furnace business of the city :

Built.	Name.	Owned by	Height.	Bosh.	Capacity, Net tons.
1872.	Charlotte,	{ Charlotte Furnace Co., Limited, Office, Lewis Block.	65	16½	22,000
1876.	Oliphant,	Fayette Coke and Furnace Co.,	50	9,000
1876.	Lemont,	R. Hogsett & Co.,	65	14,000
1880.	Dunbar, No. 1,	Dunbar Furnace Company,	77	} 52,000
1880.	Dunbar, No. 2,		78	

These add a further capacity of 97,000 tons, making the total capacity of what may be classed as Pittsburgh's out-put of pig iron—922,000 tons.

Less than fifty years ago the American blast furnace making from six to ten tons a day was doing good work. What a contrast between that and 303 tons a day as some of the furnaces at Pittsburgh have done.

There is a branch of the steel manufacture, and to a certain extent connected with both the blast furnace and foundry business, that although of later origin than other classes of industries, find its proper mention at this point; the more especially that from the casting of a solid steel cannon by one of the establishments, it may possibly become a factor in inducing the location of a governmental cannon foundry in Allegheny county.

The cannon alluded to in the previous paragraph was a

Steel Casting.

The making of steel castings from crucible steel at Pittsburgh was established in 1871, by the Pittsburgh Steel Casting Co., under which title the works still continue. The establishment furnished a part of the work for the celebrated Davis Island Dam, and at their own cost cast and finished a steel cannon for the purpose of convincing the government that the steel manufacturers of Pittsburgh have the ability to compete with European makers of heavy cast steel guns. This was the first attempt to make a high power rifled steel gun, although some small

steel guns had been made some twenty years since by Singer, Nimick & Co. High power means the force to drive the missile 2,000 feet per second. In the making of this cannon 17,000 pounds of Bessemer metal was used, and when rough turned and bored, weighed 10,600 pounds. The cannon was sent to Washington, D. C., to be rifled and fitted with a breech-loading apparatus, all of which could be done at Pittsburgh as well as it is done at Krupp's celebrated cannon works in Germany.

In a communication on this subject to the Ordnance Commission, this firm says:

"Let the government offer three prizes, large enough to enlist the confidence of manufacturers, to be given to those who succeed in making the best 6-inch cast steel guns, this size being within the limits of present capacity of nearly all our steel plants. Three prizes also for 12-inch guns, to be given to the successful competitors for the first prize. This plan would save millions of dollars to the government and give the best attainable results. Let the guns be made according to the method deemed best by the manufacturers, all the guns to be submitted to the same destructive tests, and classed according to endurance, as 1, 2, 3. etc. There should be no effort made to keep our mechanics within the circle of the experiments of the English, German or French, but leave them free to act as they think best; and in five years' time the results obtained will show a progress in the manufacture of heavy ordnance that would astonish the world."

On this point the firm of Mackintosh, Hemphill & Co., who also make castings of steel, say in a communication to the same commission:

"We propose the manufacture of a cannon of large caliber and great weight by the process of steel casting, by departing from the usual process of casting in a sand mold, substituting a case of sheet iron roughly approximating the contour of the gun, allowance being made for the finishing; trunnions being cast with the gun. The steel ingot after becoming cold will be taken to the lathe, rough bored and turned, and then put in an annealing furnace and thoroughly annealed. By thoroughly annealing such casting a remarkable change is effected in the structure of the material; what was a coarse, open grain becomes a fine, silky one, equal to good hammered steel, and its toughness will be vastly increased. By this mode of manufacture the cost of a large gun will be reduced very much below that of a coiled or forged gun, and we claim it will be fully equal in strength and soundness."

The genealogy of this latter firm is more properly given in the historic resume of the foundries of Allegheny county. To a better understanding of the general reader of the ability of the steel works of Allegheny county in its centennial year, and as the best expression that can be made as to the capabilities of its steel mills, the following opinions of some of its most prominent manufacturers are quoted, being extracts from letters to the Ordnance Commission:

Singer, Nimick & Co. say:

"We can roll a plate of steel 78 inches wide, 6 inches thick and 12 feet long. The daily capacity of this train of rolls, 24 hours, on plates that size, would be about fifty tons."

The Spang Steel & Iron Co. say:

"In reply to your inquiry as to the capacity of our mill to produce armor plates, we are pleased to say that quickly we could supply plates—say at the rate of 50 to 75 tons daily, 15 to 18 inches thick, 96 to 100 inches wide, and say 30 to 40 feet long."

Shoenberger & Co. say:

"In reply to your inquiry as to the capacity of our large plate mill, we would say that our rolls are 112 inches long by 31 inches in diameter, and that we can roll plates 100 inches wide by 200 inches long, and turn out 100 tons per day. Should the government desire armor plates, we can roll them from a steel ingot 32 inches thick down to any thickness desired."

The following offer was submitted to the Commission by Moorhead & Co., of this city:

"We are prepared to furnish immediately, or within one month from receipt of order, plate wholly of charcoal hammered bloom iron, or of steel, homogenous in character, or of combined hard and soft steel, as may be required, say up to $7\frac{1}{2}$ feet in width and 12 inches in thickness, and in weight up to 30,000 pounds each. We are now prepared to deliver 50 tons of plate of the above sizes per day."

Jones & Laughlin, Limited, in a statement through Mr. B. F. Jones, the senior member, say:

"In my judgment there is no better place in the United States to make armor plates and ordnance than Pittsburgh. The best materials in the country and the most skillful mechanics in the world are attracted here. I have examined Krupp's and other celebrated ordnance and armor-plate works abroad, and I do not hesitate to say that they cannot only be matched, but can be surpassed."

The Pittsburgh Bessemer Steel Company, now Carnegie, Phipps & Co., Limited, says:

"The plate mill we are now building will contain a train that will roll plates about $9\frac{1}{2}$ feet wide and any reasonable length. As to thickness, it will take an ingot 14 inches thick and reduce it to any thickness down to $\frac{1}{4}$ inch. Capacity per day, 100 tons."

Park Bros. & Co. made the following reply:

"We can cast an ingot weighing 30 tons, and can work such ingot under our hammer. Our mill has rolls 115 inches long, and we can finish plates, say $\frac{3}{8}$ to $\frac{1}{2}$ inch in thickness, 104 inches wide, and say 30 or 40 feet long."

The Pittsburgh Steel Casting Company submit the following with regard to their capacity:

"We can successfully cast a gun ingot of steel up to 100 tons weight, that would meet all requirements fully as well as any of foreign make. This would require a longer time than the casting of the 44-ton ingot, which we affirmed could be completed by the 1st of July, 1886, but it could be done within a year. The largest casting made to this date at our works is 18,000 pounds, and as to largest size it is only a question of dollars and cents."

In these pages, intended merely as a running history of the manufacturing progress of Allegheny county during its hundred years of existence, only its representative classes are presented at length, as illustrative of the progress made. To mention all of the ramifications into which the manufacturing of iron and steel run, would render this volume simply a trade catalogue, instead of a general history. There are however some of Pittsburgh's manufacturers that are in themselves such exemplifications of progress and the present status of the industries of the

county, that they call for brief mention. Prominent among these is the great steel rail mill at Braddock, known as the Edgar Thomson Steel Works, some mention of which has already been made in the preceding pages.

The above named works for the production of steel rails is a specialty among the steel works of Pittsburgh, being constructed and worked solely for the making of rails. They are situated at Bessemer, eleven miles east of Pittsburgh, and are connected with the main line of the Pennsylvania railroad, with the Pittsburgh division of the Baltimore and Ohio railroad, and the main line of the Pittsburgh, McKeesport and Youghiogheny railroad. Through these connections they command for transportation facilities the entire railroad system west and south, while the Monongahela river, on which the company's grounds front for 3000 feet, gives facilities for water carriage to and from its very doors over the whole Ohio and Mississippi system of navigation. In their location these works are a most admirable illustration of those receptive and distributive facilities enjoyed by Pittsburgh manufactories.

The capacity of furnaces now running is 900 tons of pig metal; and of the steel department, 900 tons of ingots, and 700 tons of rails per twenty-four hours. The works employ 2500 hands. Seventeen locomotives are required to do the yard transportation of the entire works. There are twenty-eight miles of railroad track, mostly of standard gauge. The amount of ground covered by buildings is almost eleven acres. Entire works require fifteen million gallons of water every twenty-four hours.

Likewise an establishment for the making of elliptic and spiral steel springs. These works were originally started in this city by Mr. Aaron French in 1865, in a small shop on Liberty street, opposite the Union depot. Some years later a partnership was formed by Mr. French with Mr. Calvin Wells, under the firm name of A. French & Co. That firm continued the manufacture of elliptic railway springs only until July 24, 1884. The Culmer Spring Co. was started in 1873 for the purpose of manufacturing spiral springs, and they continued the business until April, 1881, when they were bought out by the parties who formed the French Spiral Spring Co., Limited. This company continued until July 24th, 1884, when they formed the company of the A. French Spring Co., Limited, the earlier company of A. French & Co. being also merged in the new company, which was formed to manufacture springs of all descriptions, and the present prosperous condition of the works indicates that the combination was a step in the right direction.

The A. French Spring Co., Limited, is at present, doubtless, the largest concern in the world engaged exclusively in the manufacture of springs. It has double the capacity of any similar concern in the United States, having three mills.

The Iron Bridge Building

business, as carried on at Pittsburgh, is also one of the massive industries of the city.

Be it a complete blast furnace or a steel mill, an iron ship, or a 20,000 pound cannon, nothing to be constructed of iron draws too heavily upon the resources of

Pittsburgh, or presents obstacles to her skilful mechanics, nor is there any iron work of however so great magnitude whose construction they do not engage in. That, therefore, companies should have been formed in Pittsburgh for iron bridge building is not to be wondered at, nor the magnitude of the structures they build. There are in this city four companies and firms engaged in this industry.

The oldest and chief of these iron bridge constructionists is the Keystone Bridge Company, which was established in 1860 by Sheffler & Piper, but was organized as a company in 1865. The magnitude of their business and consequent facilities of their works is best expressed by the fact that they have constructed fifty-one miles of bridges, and thirty miles in the last ten years. Those who have crossed the bridge at St. Louis over the Mississippi, or the one at Havre de Grasse across the Susquehanna, built entirely of Bessemer steel, have some idea of the massive work done by this company, by whom these bridges were built.

Not only has this Pittsburgh engineering ability, and capital and mechanical skill, thrown roads of steel across the rivers of the United States, but they have also arched those of foreign countries. The Keystone Bridge Company having, in 1887, constructed ten iron bridges for the government of Brazil.

The company employs an average of 600 hands at their works at 51st and Harrison streets, which have an area of between 6 and 7 acres, and an annual capacity of 18,000 tons finished work. The wages disbursed by them will average from \$360,000 to \$400,000 a year, and the value of the output of the works in the past ten or twelve years has been over \$23,000,000.

The second in this division of this industry is the Pittsburgh Bridge Company. Their works, which have an area of one acre, have a capacity of 5,000 to 6,000 tons a year, and employs 150 hands, whose wages will average \$60,000 annually. This company has constructed some important work. One viaduct bridge of 1,200 tons, a suspended centlever bridge over Logan avenue, St. Louis, and some bridges for the New York, New Haven and Hartford Railroad, and furnished work for the new Court House of Allegheny county, of which a pictorial illustration and verbal description is given in this volume.

There are two other bridge building establishments. One, the Iron City Bridge Works, established in 1856, by C. J. Schultz; the other, the Sheffler Bridge Company, J. W. Walker.

As no statistics of the work of these last two firms could be had, the presentation of bridge building at Pittsburgh is incomplete. What has been given, however, show that Pittsburgh iron and steel bridge builders are prepared and able to bridge the rivers of the world.

The manufacturing of

Wrought Iron Pipe

is also one of the more important industries of Allegheny county. In addition to the works at Pittsburgh, there is also at McKeesport the largest iron pipe manufactory in the United States. This industry had its beginning in Allegheny county nearly half a century ago, when the making of wrought pipe was begun by Spang

& Co., in 1840, which firm was succeeded in 1856 by Spang, Chalfant & Co. In 1864 A. M. Byers & Co. established the second works of this kind. In 1866 another was put in operation by Evans, Clow, Dalzell & Co., who were succeeded by Evans, Dalzell & Co. This firm having financially failed their works passed into the possession of the Pennsylvania Tube Works.

In 1871 Wm. Graff & Co. also established another tube works at Herr's Island, Allegheny City, these subsequently passing into the possession of Rhodes & Porter (Joshua Rhodes and —— Porter), Mr. Rhodes becoming subsequently interested in the Pennsylvania Tube Works, which, as before stated, came into the ownership of the works of Evans, Dalzell & Co.

In 1879 the National Tube Works were built at McKeesport by the National Tube Works Company. In 1884 the Continental Tube Works Company built extensive works in the Twenty-third ward of Pittsburgh, the firm style being subsequently changed to Continental Tube Works, limited. In 1885 the Pittsburgh Tube Works were built by the Pittsburgh Tube Company.

The facilities at Pittsburgh for manufacturing this article are not approachable at any other point. That covers the subject without further words, as a consideration of the facts given in the various remarks in this volume as to the iron, steel and fuel resources of the city demonstrates. Iron tubing from $\frac{1}{8}$ inch to 16 inches in diameter is made at all the mills engaged in this class of manufactures, and two-thirds of all the iron tubing made in the Middle States is the product of the tube works of Allegheny county.

This class of manufactures in Pittsburgh is in advance of the quality and mechanism of any of their product in any other part of the world, not excepting England. Orders for the products of these works are filled in sharp competition with the bids of European plants, large quantities being lately shipped to Russia and also Canada, at which point Pittsburgh makers are not only able to pay the duties, but still undersell the English houses.

The capacity of these six mills is about 180,000 tons, and the area of ground occupied by them approximates fifteen acres, and the value of the plants is estimated at \$4,000,000. They employ an average of 2,500 hands running full, which they are now doing up to their capacity, and distribute wages to the amount of between \$1,200,000 and \$1,400,000. The value of the output of these mills is from \$8,000,000 to \$9,000,000.

Bolts and Nuts

is another important branch of the iron business of Pittsburgh; there are in the city seven factories. The manufacture of these articles originated in Pittsburgh.

In 1845 or 1846 William Kenyon, of Steubenville, Ohio, invented a machine for cutting and pressing a nut at one operation; the right of which invention was purchased by Haigh, Hartupee & Co. from him in 1850, who then applied as his assignees for a patent, which was granted shortly after. Some period after the time mentioned as the date of Kenyon's invention Isaac H. Steer constructed dies for a similar purpose.

In the spring of 1850 the first machine for that purpose was built by Henry Carter and James Rees. Henry Carter then purchased the right of Isaac H. Steer, and obtained letters patent, both on the invention of Steer and of Carter & Rees.

In April, 1856, James Rees disposed of his interest in the manufacture to Henry Carter, who at the same time formed a co-partnership with Charles Knap, then of the Fort Pitt Foundry, under the style of Knap & Carter, Charles Knap having purchased one-half of the patent for the territory west of the Allegheny Mountains. On the 1st of January, 1857, they associated with them John W. Butler, the style of the firm being Knap, Carter & Co., from which firm the Standard Nut Company proceeds.

In 1863 Lewis, Oliver & Phillips established the second of these works in Pittsburgh; in 1871 the Pittsburgh Manufacturing Company another; in 1875 Charles & McMurtry another, which firm subsequently became Wm. Charles & Co. In 1876 F. M. Haslet & Co. embarked in the business, the firm being succeeded by Charles B. Head, and in 1882 Marland & Neely, subsequently Marland, Neely & Co., limited.

These manufacture all descriptions of bolts and nuts, and employ, running full, about 600 hands, whose wages amount to something over \$300,000. The works occupy over four acres of ground, and the value of the plants in buildings, machinery and ground is estimated to be from \$400,000 to \$450,000. One of these firms, Oliver Bros. & Phillips, however, employ a larger proportion of their hands in the manufacture of heavy hardware.

The others produce bolts and nuts exclusively, except the Pittsburgh Manufacturing Company, who manufacture besides bolts a variety of specialties of iron, and make a specialty of making nail and spike machines.

As everyone knows what bolts and nuts are and their use, nothing descriptive is required to be said. Wherever construction work is being done these useful products of Allegheny county's manufactures are doing their share of the work in the world's progress. There is much food for thought in the facts, that even this condensed exhibit of Allegheny county's industries present, in the reflections that naturally arise as to the important part their products are playing in the progress of the whole country, and the great supply point the county is for the nation. It is most difficult to realize that it is but a hundred years since the whole value of the county's manufacturing products was triumphantly announced at \$350,000, and that they are now, in fact, approaching as many millions, and the mental question naturally arises, what will be their bulk when Allegheny county celebrates its duo-centennial?

The making of AXES, SHOVELS, SAWs and other iron tools is likewise a prominent division of the manufacturing products of Pittsburgh, and so far as the two former articles are in question, their production dates back to the beginning of the century and William Porter. As early as 1803, "augers, chisels, planing bits, drawing-knives, etc., to the value of \$1,000 are mentioned in "A View of the Manufacturing Trade of Pittsburgh" in *Cramer's Almanack* of 1804, and in 1808

in a similar enumeration, "Ironmongery," as the term then was for axes, hammers, hoes, and such articles, is mentioned as being produced to the value of \$15,000, and in an account of the manufacturers of the city in 1817, "collected by direction of the Councils," there are six tool-makers recorded, producing \$63,100 worth of tools and employing eighteen hands.

In 1836, Lippincott & Bros. and Kings, Higby & Anderson manufactured 8,000 dozen shovels and spades, 1,600 dozen hoes, and 600 dozen saws, and Oren Waters, on Chartiers creek, and Ephriam Estep, at Lawrenceville, in the same year, made axes, shovels and spades to the amount of \$90,000. In 1856 there were four firms in this branch of the county's industries, who used \$440,006 of materials, and paid wages to the amount of \$231,660, and produced 100,590 dozens of axes, shovels, hoes, picks and mattocks, of a value of \$823,742.

In that year J. Holmes & Co., who were the successors of J. Holmes, who established the business in 1840, was the oldest firm, and Postley, Nelson & Co., who succeeded Nelson & Morgan, established in 1843, were the next oldest. Newmeyer & Graff, who succeeded Dawson, Newmeyer & Co., established in 1854, and Lippincott & Co., established in 1847, were the other two. Of this latter firm the firm of Hubbard & Co. is the direct successor through several changes of firms, the other firms having died and left no "sign."

There are now eight extensive manufacturing plants for the making of what may be technically classified as "tools," although there are several others making special articles in a limited way, some of which are noted in these pages under the special heads, or are products of works whose main business is of other classes.

The establishments which follow the business distinctively employ over 1,000 hands, to whom they pay annually an average of from \$500,000 to \$550,000 wages, and their products are of the value of about \$1,500,000.

For the mechanics of Pittsburgh to build the engines, to make the rolls, to forge the beams or girders, or do any or all of the separate details of an iron plant has been for years among their avocations, but it remained for the later years of the development of the county to grow establishments which would produce a blast furnace or steel plant *complete* in all its magnitude and all details as readily as in former years any one essential to its construction. While, as before observed, there have been, as there are now, establishments in Pittsburgh whose facilities for the production of the various machinery or forged materials of furnaces and iron and steel plants are of great magnitude, yet there are now several establishments whose specialty is to manufacture, if that term may be used, as a whole, blast furnaces, iron and steel plants, and deliver them over to their proprietors in running condition and order with as much comparative ease as though it were a cooking stove. This branch of business was established at Pittsburgh in 1876 by James P. Witherow. The statistics, as a whole, of this industry are not to be collected, for various reasons. Its bulk is partly shown by the statement that the one firm by whom the business was originated in Pittsburgh have transactions that exceed \$1,000,000 a year.

The Foundries of Pittsburgh

rank next in the iron industries of the city. In this is necessarily embraced the engine and machine works of Pittsburgh, as many of them have extensive foundries as component parts of their establishments.

Somewhat of the early history of the establishment of the foundry industry of Pittsburgh is mentioned in the opening statements of this chapter on the iron industries of this city, and would be but a repetition to here recite. It is sufficient to say that the first iron foundry established in Pittsburgh was in 1803 by Joseph McClurg, of which in its general business the firm of A. Garrison & Co. is the direct successors. The famous Fort Pitt Cannon Foundry was also a constructive successor, as in the casting of cannon Joseph McClurg made the guns for Perry's fleet in the war of 1812, and Cramer's Almanac in 1810 mentions this foundry as having "lately cast seventy tons cannon balls for the United States." And the Fort Pitt Foundry, in the important part they took in the casting of shot and shell and cannon during the Civil War, were in that fairly constructive successors in that product.

The foundry was originally located on the corner of Fifth avenue and Smithfield street, on the lot where now stands the Custom House, and was established by Joseph McClurg in 1803. In the seventy years of its existence its operations have been conducted by several firms, among which were Knap & Totten, Knap, Wade & Co., Knap, Rudd & Co., The Knap Fort Pitt Foundry Co., Chas. Knap, and Chas. Knap's Nephews. The cannon foundry is now dismantled, and the buildings and ground occupied by Mackintosh, Hemphill & Co. It needs but the government, however, to require similar service to revive it. Pittsburgh founders of to-day are as skilful, and more so, than twenty-five years ago.

The foundry business ranks second in the iron business of Pittsburgh in the amount of capital invested. The variety of their staple castings is large; and there is no description of foundry work which the skill, facilities and resources of the firms engaged in the business does not justify them in undertaking.

With the increase and growth of Pittsburgh in the past two decades the foundry business, as a class, had gradually sub-divided itself until its various branches, which may be classified as general foundries, stove foundries, heavy machine foundries, light machine foundries, steam engines, machine shops with foundries, engine factories without foundries, engineers, iron founders, machinists, roll foundries, and malleable iron foundries.

In the gradual progress of the foundry business in Allegheny county the making of steam engines and other machinery became an adjunct to the operations of many foundries, and in like manner cupolas of greater or less capacity were added to the machine shops, which, therefore, renders it difficult to separate them in their individualities in any historic tracing of the successive establishments. In many cases the engine building part of the plants were eliminated from the foundry, and in others the foundry division of the business was disposed of to a new firm, according as either division of this class of the iron industry increased in volume.

The first foundry established in the western counties of Pennsylvania was at Jacob's creek, in Westmoreland county, in 1790, by Turnbull & Marmie. "Marmie" was a Frenchman, a former secretary of Lafayette. The foundry was not a success financially, and there is a wild legend connected with it touching the fate of the young Frenchman. Fonder of deer hunting and other field sports than of business, he gave much of his time to the former, and, as the legend is told, when financial ruin came to the firm, Marmie, hopeless and despondent, resorted to a Frenchman's road out of the calamity,—suicide. R. P. Nevin, in his "Les Trois Rois," tells graphically of the legend thus, "calling his hounds he assembled them on the bridge that led to the mouth of the furnace. With whip and halloo he urged and scourged, driving them towards it. The pack, trembling in dismay, with wildly glaring eyes looked now at the fire blazing from the pit, now at the face of their master, then seized as seemed by the reflection of his madness, started and bounded forward, straight through the scorching heat, plunged headlong into the open throat of the hell before them. Their tyrant tarried not behind, but with a cry,—the cry in wild repeat of that with which he used to cheer them in the chase—followed on their track, and rushing to its brink flung himself after them into the burning hole. The fires of the furnace died out and were never kindled again." Mr. Nevin gives the partners associated with Marmie in the foundry as Halker and Turner, two dealers in metal and hollow ware of Philadelphia. Other authorities give a Mr. Turnbull as Marmie's partner. The metal of the blast furnace, which it really was, for the making of pig metal, was used to cast pots, sugar kettles, and similar wares, so that the establishment appears to have been a blast furnace and foundry combined. It was from this foundry that Major Craig, while in command of Fort Pitt, ordered four hundred round shot.

The first foundry at Pittsburgh, as before said, was at the corner of Fifth ave, and Smithfield street, where the Post Office now stands, and called the "Pittsburgh Foundry," by Joseph McClurg, Joseph Smith, and John Gormley, in 1803.

Shortly after its erection Joseph McClurg bought out his partners, Smith and Gormley, and with his son, Alexander McClurg, conducted the business successfully until 1814. From 1814 to 1822, the foundry was owned and operated by McClurg & McKnight, and then by Alexander McClurg & Co. till 1830, when the establishment was purchased by Kingsland & Lightner, who were proprietors of the Jackson and Eagle foundries, the business of which was merged into that of the Pittsburgh foundry. From 1831 to 1836 the firm was known as Kingsland, Lightner & Cuddy. In 1836, Abraham Garrison obtained an interest in the business, and in 1840, Mr. Garrison, who was a nephew of Kingsland, and H. L. Bollman, a nephew of Lightner, succeeded their uncles, and associating with them H. F. Bollman, carried on the business under the name of Bollmans & Garrison till 1851, when H. F. Bollman withdrew. From 1851 to 1863, the firm was Bollman & Garrison, and from 1863 to 1865, Bollman, Garrison & Co. In 1864, Mr. Garrison bought Mr. Bollman's interest, and the present partnership of A. Garrison & Co. was formed January 1st, 1865. In 1826 the first contract of water pipe for the

city of Pittsburgh was made with Alexander McClurg & Co., of the Pittsburgh foundry, and Kingsland, Lightner & Co., of the Jackson and Eagle foundries. The first pipe was cast 1827, and tested at a pond then to be seen between the Cathedral and Smithfield street. The first chilled rolls made west of the mountains, the manufacture of which was destined to become the great specialty of the Pittsburgh foundry, was cast at the Eagle foundry by Kingsland, Lightner & Co., who succeeded Alexander McClurg & Co. in 1830.

The next foundry was that established by Wm. Price in 1808, subsequently known as the Berlin Foundry. This foundry was long a land mark, because of a singular shaped dwelling, Mr. Price attached to it built perfectly round, giving a whimsical reason for so doing. Mr. Price was an Englishman, and came to Pittsburgh to work at O'Hara's glass works, where, according to a letter of Isaac Craig quoted in the chapter on glass, he made the first attempt to make flint glass at Pittsburgh. This foundry has passed down in the family possession, and is now operated by the firm of W. G. Price & Co. In 1813, Anthony Beelen is noted in the accounts of that date as having a foundry. This was at what was then known as Sukes Run, a small creek that entered the Monongahela at or near the intersection of what is now Second avenue and Try street, where the first steamboat was constructed. At what date Mr. Beelen put his foundry in operation is not definitely of record, but probably about 1809-10, and was called the Eagle Foundry. Whether this subsequently passed into the possession of Jackson & Kingsland, who are noted in the chronology of the first foundry as having the Jackson and Eagle foundry, is not of record, but it is probable that from the title Eagle, being combined with that of the Jackson foundry, that firm had absorbed the foundry established by Mr. Beelen.

It was in 1813-14 that the Pittsburgh foundry began the manufacture of cannon at Pittsburgh, and to this branch of its business the firm of Knap, Wade & Co. succeeded, as elsewhere noted. In 1817, a firm styled Sutton & McNickle established a foundry in Birmingham, then a suburb of Pittsburgh. There appears to have been several small foundries subsequent to this put in operation in Pittsburgh, but being somewhat in connection with the machine shops in that period, there is no distinction individually attached.

In 1826, John Authers and John Nicholson formed a co-partnership and erected a foundry for the making of heavy machines and other castings. In 1830, they began the making of stoves, which they continued until 1847, when Mr. Authers retired, and Mr. Nicholson continued the business until 1849, at which time he associated with him G. W. G. Payne under the firm style of Nicholson & Payne. On January 1st, Mr. Nicholson retired, selling his interest to Wm. A. Lee and F. S. Bissell, the firm name becoming Payne, Lee & Co. In the same year Charles A. Bissell, now of Cleveland, purchased the interest of Mr. Lee, and the firm name changed to Bissell & Co., under which partnership it was continued until 1866, when Chas. A. Bissell withdrew, and F. S. Bissell continued the business under the same firm name. On the retirement of Mr. Lee, the works known as the Eagle

were abandoned and a new foundry built on the site of Bissell, Semple & Stephens rolling mill, mentioned in the chronology of the rolling mills. The name of Eagle foundry seems to have been a designation of Beelen's, Arthurs & Nicholson and Kingsland & Lightner's foundries. Whether this title descended through purchase of the whole or part of the foundries of these earlier successive firms, does not appear but that there was some chain of successorship is most probable, to justify the assuming of the name, under which, if so, the present firm of Bissell & Co. may have claim to business descent from Anthony Beelen's foundry of 1809. F. S. Bissell is the son of John Bissell, of the Bissell, Semple & Stephens rolling mill firm, and has succeeded his father in some of the honorable public positions his father held.

In 1827, Cuthbert & Co., consisting of Sterley Cuthbert, Thomas Mitchell and Thomas Sweeny, established a foundry, which in 1829 passed into the ownership of Thomas Mitchell & Co. The firm subsequently became Cuddy, Mitchell & Co., (James Cuddy, Thomas Mitchell and others). This firm was succeeded by Pennock & Mitchell (Joseph Pennock), and in 1845 the style of the firm was Pennock, Mitchell & Co. Subsequently, John B. Herron and Nathan S. Hart having been admitted as partners, a new firm was organized as Mitchell, Herron & Co. In 1855 the firm dissolved, and a new firm was organized under the style of Mitchell, Stevenson & Co. (Thomas Mitchell, John B. Herron and William Stevenson). Mitchell & Stevenson being ultimately succeeded by Baldwin & Graham. Joseph Pennock and Nathan Hart organized a new firm and erected the Fulton Foundry. Subsequently, in 1864, John B. Herron withdrew and built a new stove foundry, called the Stella, from which came the firm of John B. Herron & Co., who were operating the works in 1876. In 1829, Parry, Scott & Co. built a foundry on Second avenue, near Ross, called the Iowa. This foundry passed subsequently and ultimately into the ownership of John C. Parry, until he finally retired from business, at which time the foundry was dismantled.

In 1835, John Anderson established a foundry on the site of the old public school house which stood where the Monongahela House now is, and where, at about the same time, John Greer had a small foundry. Mr. Anderson afterwards built a new foundry at the corner of Grant and Water streets, which was known as the Monongahela Foundry. He subsequently associated with him his son, Wm. J. Anderson, under the title of John Anderson & Co. Subsequently the firm became Anderson & Phillips (W. J. Anderson and Ormsby Phillips, afterwards Mayor of Allegheny City, and subsequently one of the proprietors of the Pittsburgh *Dispatch*, dying while the business manager of that paper).

The firm of Anderson & Ormsby was succeeded by Henry Freyvogle, a former clerk of Anderson & Phillips. He ultimately built a new foundry at Fifth avenue and Madison street, and died about the time it was completed, and the building was never used for foundry purposes. Some time about 1822, Wm. T. McClurg, who died in August, 1888, in his ninety-first year, and was a son of Joseph McClurg, of the first foundry, established a foundry at the corner of what is now Twelfth and Etna streets, known as the Franklin Foundry, which firm, about 1836-7, became Wm. T. McClurg & Co.

There were subsequent changes in this firm, which finally centered again in Wm. T. McClurg, who continued the business until about 1860, when he retired.

In 1833, L. R. Livingstone established what was known as the Novelty Works, a combination of a foundry for small castings and a factory for the production of iron novelties, so called, such as latches, copying presses, umbrella stands and similar goods, among which were coffee mills, for which a trade was established, and they obtained distinction by the original manner in which the firm spelled coffee in their advertisements—"Kaughphy." This firm was succeeded by Livingstone, Copeland & Co., and they by Morehead, Adams & Co. (J. K. Morehead, John Adams, Jarvis and others). The stock, patterns and good will of this company ultimately became merged in the Jones & Nimick Manufacturing Company, established in 1863, which latter firm was the successor of the Variety Works, established in 1855 by Jones, Walingford & Co. The Jones & Nimick Manufacturing Company was succeeded in 1872 by the Nimick Brittan Manufacturing Company; Alex. Nimick, president; Glendy S. Graham, secretary, and Arthur Brittan, general manager; the works having been turned into a manufactory of builders' hardware, bronze ware, padlocks, etc., the firm employing over 300 hands and occupying seven acres of ground.

In 1837, a firm known as Rowan, Edgar & Bradley operated the Franklin Works, which subsequently passed into the hands of Marshall & McGreary (James Marshall, Henry McGreary), then to H. McGreary & Co.

In 1846, Quin, McBride & Co. built the National Foundry, which was in 1856 operated by D. W. Cuddy, but has now become extinct.

In 1846, Alexander Bradley, who became in 1837 a partner in the Franklin Foundry, where he had as early as 1827-8 been employed as an apprentice, associated with him his brother Charles, and built a foundry for the manufacture of stoves on the bank of the Allegheny river, above Sixteenth street, and carried on the business under the firm name of A. Bradley & Co., which it has been ever since, no change being made at the death of Charles Bradley in 1848, although some junior partners have been admitted to the firm. The business of stove manufacturing increased so rapidly that an enlargement became necessary to the works, and the firm purchased the land at the corner of Etna and Twelfth streets, the site of the McClurg or Franklin Foundry, and erected the present stove works, known as the "Etna."

In 1836 Robinson & Minis (— Robinson, Benjamin Minis) built the Washington Foundry and Machine Works, for the manufacture of steam engines and the making of heavy castings. In 1837 the firm became Robinson, Minis & Miller, at which date Reuben Miller, Jr., became a partner. It was by this firm that the "Valley Forge," the first iron steamboat on the western rivers, was built. In 1854 the firm became Robinson, Rea & Co., Wm. Rea becoming a partner, and subsequently, in 1885-6, the style of the firm becoming The Robinson-Rea Manufacturing Company, under which firm style the business is still continued in the manufacturing of rolling mill machinery, heavy marine and stationary engines, and other heavy machinery.

In 1830 the firm of McClurg, Wade & Co. established the Fort Pitt Works, the successions of which have been previously mentioned, for the manufacturing of heavy rolling mill and other similar machinery. In 1844 Henry Anshutz & Co. built the LaFayette Stove Foundry, in Allegheny City, which firm subsequently became Anshutz, Bradbury & Co.

Shortly afterwards a foundry called the Western was built by the moulders, a workingmen's co-operative association, which about 1850 came into the ownership of Graff & Co., and subsequently the firm style became Graff, Hugus & Co.

In 1848 S. S. Fowler erected a foundry for the making of heavy machinery of all kinds, and in 1855 Pennock & Hart (Joseph Pennock, Nathan Hart) built the Fulton Foundry for making heavy machinery, which works, on the failure of Pennock & Hart, came into the ownership of Totten & Co., which latter firm still own and operate the works.

In 1850 Eichbaum, McHenry & Co. built the Keystone Stove Works, to which, previous to 1856, D. DeHaven succeeded, and subsequently he by the firm of D. DeHaven & Co., limited. In 1853 Wm. Smith erected a foundry for the making of heavy castings. The foundry has ceased to exist, and the site and buildings are occupied by the boiler works of R. Munroe & Son.

There were in 1856 in Pittsburgh and Allegheny cities 16 foundries proper, with 30 cupolas and a capacity of 44,300 tons of metal. They employed 860 hands, whose yearly wages averaged about \$340,000, and the value of the castings produced over \$1,250,000 annually. From 1856 to 1876 there were 11 new foundries established, being an increase in the twenty years of over 80 per cent.

The same perplexity in giving the chronology of the engine and machine works arises as in that of the foundries, as mentioned in the first sentences of the paragraphs grouping these two industries, and the same course is consequently pursued in mentioning those establishments where the construction of machinery is the principal occupation and the foundry but a mechanical adjunct.

In 1810, in a recital of the manufactures in Pittsburgh at that date, as well as others made from 1803 to the former year, although smitheries and machinists are mentioned, there is no record of steam engine works. In 1813, however, there is mention of two—Stackhouse & Rodgers (Mark Stackhouse, Mahlon Rodgers) and Tustin's. In 1817 two makers of steam engines are noted, employing 87 hands, and producing work to the value of \$125,000, which were probably the same as were in operation in 1813, which must have been established subsequent to 1810, and quite possibly had originated from the possible field for that industry opened by the building of the first steamboat. In 1818 John Marshall established a machine shop on Diamond alley, which has been continued in the family, being now carried on under the firm style of Marshall Bros. About 1820 Matthew Smith, who came to Pittsburgh with Livingstone in 1811, had a machine shop on Penn avenue, near Second street. There was also at an early date the Columbia Steam Company, originating with George Evans, of which Lewis Peterson, who died about 1886, at the age of 90 years, was the secretary.

This is possibly the same works mentioned as Stackhouse & Rodgers, in 1813, or succeeded it, as it was managed by M. Stackhouse and M. Rodgers. These works constructed the machinery of the first water works at Pittsburgh, under the superintendence of George Evans. The Columbia Steam Engine Company about 1830 passed to Warden & Benney, and afterwards to John B. Warden & Son. In 1820 Arthurs & Benney built what was known as the Union Works at the corner of First avenue and Redoubt alley, which at a subsequent period passed into the possession of A. Irwin & Co. In 1828 James Nelson succeeded to the steam engine and machine division of the works of Arthurs & Nicholson, they retaining the foundry. By him the engines of the second water works of Pittsburgh were built.

In or about 1833 a firm was organized for the manufacture of steam engines by James Thompson, the first superintendent of the Pittsburgh Gas Works, and Samuel Stackhouse, under the firm name of Stackhouse & Thompson. These works finally passed into the possession of J. Tomlinson & Co., by whom the iron governmental revenue steamer, "Michigan," still in service on the lakes, was built, as noted in the chapter on boat building in this volume, also the iron frigate, called the "Allegheny." In 1834 E. & F. Faber established what was known as Faber's Engine Works, that firm being subsequently F. & W. M. Faber. In 1836 C. Kingsland established an engine works and foundry in Allegheny, at the corner of Lacock and Sandusky streets, which is now operated by Thomas Carlin. In 1840 Robert Wightman built a machine and engine shop to which James Rees succeeded in 1854, now known as the Duquesne Works, and operated by the firm of James Rees & Sons, mentioned in the chapter on boat building in connection with the construction of the first steel boats.. In 1840 W. P. Eichbaum established an engine manufactory in Allegheny City, at Water and Middle alleys. In 1841 Joseph Tomlinson erected the Vulcan Works, which were merged into those of Stackhouse & Thompson when the firm of J. Tomlinson & Co. succeeded the latter firm. In 1844 Hugh Wightman established the Penn Engine Works in Allegheny City, on Lacock street, they subsequently passing into the proprietorship of Gibson & Riddle. These works are now extinct. In 1847 R. Ramsey & Co. put in operation a machine shop on Short street, which firm subsequently became Ramsey & Renton, and is now William Renton, the works being at the corner of Ferry and Water streets. In 1847 White, Hartupee & Co. built a large engine and machine works at the corner of First and Short streets. To this firm A. Hartupee succeeded and it ultimately became A. Hartupee & Co. By them the engines of the present water works of the city of Pittsburgh were made. In 1848 Cyprian Preston built the West Point Engine Works, which, after passing through several changes of firm, ceased to exist. In 1854 Robert Lea established an engine and machine works, at the corner of First avenue and Ferry street, which he still continues.

The chronology of the earlier engine and machine works of the city has thus been brought down to within a quarter of a century of the present date (1888). In 1856 there were 16 machine shops, having 12 foundries attached, with a capa-

capacity of 23,000 tons, employing 737 hands, to whom they paid \$306,802 of wages, and built steam engines to the amount of \$836,300. In 1775 steam engines were first applied to the pumping of mines and the manufacture of iron, and in 1794, nineteen years afterwards, were in use at Pittsburgh, and about 1812, or eighteen years thereafter, were being manufactured there. This presents another fact as to the pioneer character of Allegheny county. Comment has at times been made on the slowness with which Pittsburgh seemed to grow in comparison with other cities, when its great natural advantages are considered, but its history shows that if it has grown with a certain deliberate progress, it has been with great solidity, and the county of Allegheny has at all times been in the front rank in all the appliances for manufacturing progress, and the pioneer in many. The history of the establishment of the foundry and machine industries of the county might be followed to a greater length and to the gratification of chronological interest, but in the number and variety of such establishments, and the various changes in the firms operating them, the record would become wearisome to the general reader and the genealogy intricate. From 1856 to 1876 there were 25 machine shops and foundries established in Pittsburgh and Allegheny cities, being an increase of nearly eighty per cent. in the twenty years over those of the previous forty-five years.

From 1876 to 1886 there were ten additional machine shops and foundries built, or an increase of fifty per cent. from 1876 to 1886, making the increase on the plants of 1856 in thirty years, nearly 100 per cent. These works have a culpo capacity of something over 140,000 tons of pig metal, employ 3500 hands, whose wages amount to \$2,175,000 a year. They use an average of 125,000 tons of pig metal annually. The capital invested in the buildings, grounds and machinery, is stated at \$3,940,000, and the value of their products upwards of \$7,-000,000 a year. The making of boilers is another important branch of the iron business of Allegheny county. There is, however, no record of its earlier history. It is to be presumed that its inception was with manufacture of steam engines, because of the necessity of a boiler as an appanage thereto. It is likewise to be presumed, from the absence of any special mention at early dates of boiler manufacturing, as a distinct business, that their making was carried on within and in connection with the engine works. It appears, however, that a firm by the style of McClurg & Pratt had a boiler yard, so technically called, nearly sixty years since, in 1830, and that Witherow Douglass established another in 1833, which was subsequently carried on by Douglass & English, and was in operation until about 1887, under the style of W. Douglass & Sons, Witherow Douglass having died in 1886. In 1836, J. Litch established a boiler works at what is now 13 Water-street, which, in 1858, came into the ownership of Watson & Munroe, and in 1876 when Mr. Watson died, into the proprietorship of Col. Robert Munroe, and in 1880, the firm became R. Munroe & Son, under which style it still continues. There are now in Pittsburgh and Allegheny cities fourteen boiler and tank manufacturers. The growth of the oil business originating a new branch in the boiler

works in the making of iron tanks for the reception of oil at the wells, many of these tanks holding from 20,000 to 40,000 barrels of oil. In 1856, there were at Pittsburgh seven boiler yards employing 149 men, whose products amounted to \$305,000. In 1886, there were fourteen tank and boiler manufactories employing from 650 to 700 hands, the value of whose product was \$1,960,000 an increase in thirty years of 100 per cent. in the number of establishments, over 600 per cent. in the amount of the productions, and about 400 per cent. in the number of employees.

There are a number of very large special manufactories that are prominent among the industries of the county, of which individualized mention cannot be avoided although the wish in preparing this volume has been to omit all that might be considered as personal notices, other than such as was required for the historical narrative.

Among these is the Roberts & Oliver Wire Company, Limited. This company was organized in the spring of 1881, having purchased the plant of a small wire mill built about two years previous, and made large additions. On the 7th of November, 1882, the works burned down, but rebuilt with such expedition that the mill was in operation by January 2d, 1883. In 1884 the company built a mill for the making of wire rods between South Eighth and Ninth streets. There is made at this establishment over 15,000 tons of barbed wire a year, chiefly of steel. There is employed at the works an average of 1,100 hands, whose wages amount to over \$400,000 a year, and the capital invested in the plant is stated at \$1,000,000.

Another important establishment that properly comes under the classification of the special works at Pittsburgh is the

Westinghouse Air Brake Manufactory.

It was in or about 1869-70 that Mr. Westinghouse, after overcoming many obstacles in the way of incredulity and indifference of railroad officials, besides the host of minor material and financial difficulties that render the path of inventors anything but one strewn with roses, achieved success with his brake, and its general adoptions on all railroads, in time, became a fixed fact as an absolute necessity, not only for protection to travelers, but as a safe-guard against financial loss to the railroad companies.

The Westinghouse air brake is now in use on about 25,000 engines and 175,000 cars in all parts of the world, no railway of any importance in the United States attempting to run trains without it. By its use the engineer can bring his train to a stop in the shortest possible time. It can be applied from any part of the train by any employe if necessary, and it applies itself automatically if the train breaks in two, or any accident occurs to the brake apparatus.

In a series of experiments, a train running thirty miles an hour up grade was brought to a stop in sixteen seconds by the engineer. In a second experiment, the brake being applied from the interior of the car, a train running between thirty and thirty-five miles an hour came to a full stop in fifteen seconds. In a third

experiment, the train running thirty miles an hour, down grade of twenty-six feet per mile, the four rear cars were detached, and the brake acting automatically the cars came to a full stop in eleven seconds. In another experiment, the engine alone being severed from the train, the speed being forty miles an hour, down a grade of twenty-eight feet to the mile, the train came to a rest in ten and a half seconds. The *first* experiment quoted showed that a train moving at a speed of thirty miles an hour may be stopped at a distance of less than 550 feet in a quarter minute's time.

The *second* showed that a train, by simply pulling a cord in any part of it, may be stopped, when going at the rate of thirty-two miles an hour down grade, in 552 feet in a quarter minute's time; and the *third* and *fourth*, that if the the cars became detached the brakes apply automatically with equal effect. A train running thirty-five miles an hour will pass 4,080 feet in a minute, or about the length of an ordinary car in a second. Two trains approaching each other at that speed, coming into collision, would require only half a second to telescope. The importance of this invention is thus easily seen, the Westinghouse brake bringing a car or a train to a full rest in a quarter of a second or less.

Improvements on the construction and application of the brake have been, from time to time, made by Mr. Westinghouse, and in 1887 an improvement, by which the air being taken from the train pipe to the cylinder, the friction of the long pipe was gotten rid of, by which yet quicker stoppages were secured.

It is of no small interest that Pittsburgh is the birthplace of this extremely important invention, as well as the seat of its manufacture. The Committee on Science and Art of the Franklin Institute, in concluding an exhaustive report on the Westinghouse Air Brake, says: "That by contriving and introducing this apparatus Mr. Westinghouse has become a great public benefactor." Broken bridges, wild trains, accidental obstructions or malicious impediments, lost their terrors when the persevering efforts of the inventor and his friends succeeded in securing the adoption of this invention, so wonderful in its effects.

In this, as in other matters, Allegheny county is to be again credited with great public benefits, arising from her industries. In those things, as well as in the whole range of her manufactures, the broad practical character of their productions is strikingly apparent in the history of the county's progress.

The Westinghouse Air Brake Co. are now erecting extensive new works, near Turtle Creek, on the Penna. R. R., which will occupy eight acres of ground. There are 700 hands employed in the present works. The capital of the company is \$5,000,000, and its financial success is too well known in all business circles to require comment. Its present officers are George Westinghouse, President; H. H. Westinghouse, Manager and Acting Vice President; John Caldwell, Treasurer W. W. Card, Secretary. T. W. Welsh, Superintendent.

Although, technically, engine and machine works, yet the

Locomotive Works

of Pittsburgh are a distinct and prominent division of the manufactures of Pitts-

burgh. Of these there are two. The Pittsburgh Locomotive and Car Works, a joint stock company, chartered under the laws of Pennsylvania for the building of locomotives, passenger and freight cars, was the pioneer in this business. The company was organized in 1865. The works are located in the Sixth ward, Allegheny City. The ground was broken for this manufactory within the limits of that city on August 1st, 1865, the shops were ready for occupation in the autumn of 1866, and the first locomotive was turned out in the spring of 1867. Since that date the works have been in almost continuous operation, having turned out over 1,000 locomotives and a large number of stationary engines. Although the buildings were liberally planned and furnished with machinery far exceeding any anticipated need, so much has the business increased that frequent additions of machinery and buildings have been imperative. The locomotives constructed are of every class of broad and narrow gauge, from five to sixty-five tons weight, and adapted to all kinds of service. They are used in every section of the United States, and have achieved a high reputation. The annual capacity of the works is about 150 locomotives of the class usually employed on full gauge railroads, to produce which requires the labor of some 600 workmen, mostly skilled, and a vast array of machinery.

The Locomotive works of H. K. Porter & Co. is the next in age. Situated in the 17th ward on the line of the Allegheny Valley Railroad, they occupy one and one-half acres between 49th and 50th streets. The business was begun by Smith & Porter in 1866, in a three-story wooden building on the South Side, and the first locomotive was run across the old Smithfield Street bridge by its own steam, and thence over cobble-stones to the railroad freight station for shipment. The old shop was burned in 1871, and larger and more complete shops were built by Porter, Bell & Co., at the present location. The first locomotive was shipped before the new shop was roofed in. In 1878 the firm of H. K. Porter & Co. succeeded to the business and the shops have been enlarged several times since. From 200 to 250 men are employed in all departments. Over 700 locomotives have been turned out of these shops, and the present capacity is 10 locomotives per month.

Like the Locomotive Works and the Westinghouse Air Brake Works, another distinctive establishment is

The Westinghouse Machine Company.

This is a company incorporated under the laws of the State of Pennsylvania, with a capital stock of \$350,000. The business of the company is the manufacturing of a special steam engine, known as the Westinghouse engine.

The company employs at present 200 actual workmen; the wages per annum amount to about \$120,000; the works cover an acre of ground on Libery and Penn avenues and Twenty-fourth and Twenty-fifth streets, the cost of the plant being \$350,000.

The sales of this company are not made direct to the actual user, but through general agencies, which are in the United States in sixteen different States; also one each in Holland, France, England, Australia and South America.

The Plow Works

of Pittsburgh date back to 1825. In that year Samuel Hall established what is known for nearly fifty years as the "Globe Plow Works." These works were established at the corner of Penn avenue and Cecil alley, where the offices of the works were still continued until about ten years since, when the present works on Duquesne way and Cecil alley were built. In 1836 the works were enlarged and removed to Manchester, then a suburb of Allegheny City. In 1845 Mr. Hall associated with him Alexander Speer, who had for some years been in his employ, the firm style being Hall & Speer, under which style business was conducted until 1873, when Mr. Hall, having died some years previously, and all his heirs having withdrawn from the business, Mr. Speer associated with him his son, Joseph T. (William W. having been admitted as a partner in 1869), under the firm style of Alex. Speer & Sons, under which style the business is still conducted. The "Globe" is one of the largest in the country. The present works occupy 270x240 feet, two stories, with a foundry floor of 100x120, and a cupalo of 2,000 tons capacity, with blacksmith shop and finishing rooms of two stories, 60x270, and the storeroom 60x230. An average of from 100 to 120 hands are employed, whose wages will run up to quite \$100,000 a year when fully employed. The value of the plant, in machinery, grounds and buildings, is about \$200,000, and the output in plows, cultivators and similar agricultural implements, about \$500,000. The office, corner of Cecil alley and Penn av., of these works were long a land mark in the city, and have attained a historically local fame because of what was jocularly called the "Mutual Admiration Society," which met there. It was the custom for years for a coterie of some of the most prominent and leading business men of the city to congregate there of evenings. These gatherings, which were governed by a code of verbal rules, were the occasion for the display of much wit and humor, and often for the discussion of projected business enterprises or public improvements. One of the rules was that all the members should retire to their homes at nine o'clock, which rule was rigidly enforced.

Its membership consisting of Alex. Speer, James McAuley, Wm. R. Brown, Wm. Holmes, John Holmes, Geo. W. Jackson, Capt. Wm. Forsythe, Dennis Leonard, Michael Whitmore, Geo. Black, Richard Hays, Chas. and Henry Hays and James Verner. All except the three latter have passed away, leaving their memories and the public and business enterprises in which they participated for kindly remembrance. Promptly at seven o'clock in the summer and six o'clock in the winter, they were at the meeting, occupying chairs on the pavement in front of the office in summer, and around the huge coal fire inside in winter. Many a humorous story is told of this genial conclave, and many of Pittsburgh's commercial ventures and public enterprises had its birth at these gatherings. Its members were among the "solid men" of the day, and did in their life time solid work for the county and cities' advancement. It was a sort of unchartered board of trade, and a forerunner of the modern club.

The Empire Plow Works, the other of this class of industries, manufacture about 1500 plows a year, and 700 tons of agricultural steel shapes. The plant is stated as of a value of \$60,000; the wages paid will average, when running full, from \$35,000 to \$40,000 a year. The value of its output could not be obtained. Plows are also made incidentally by some two or three other establishments, and the approximate value of the output of this class of manufactures is about \$800,000 to \$900,000 a year.

As before observed, to mention the entire range of iron manufactures in Allegheny county would render this volume a mere trade catalogue. The more prominent of its leading iron and steel industries have been grouped in this chapter, that a brief history of its progress in the making of that metal might be presented and a general history of the county's growth in that respect. As nearly as can be arrived at, the value of the iron and steel product of Allegheny county is upwards of \$150,000,000 a year, on the basis of its production in 1887. It is not possible to present any comparative figures of its increase from decade to decade, or even in periods of greater length, by reason of the absence of any reliable grouping of statistics at comparative dates.

To a gross summing up of the yearly business transactions in iron and steel at Pittsburgh should be added the data of its metal market. The irons and ores of most all quarters of the globe as well as the United States find a market in Pittsburgh, and are brought there. The gross receipts of ore, pig iron, blooms, billets, old rails and scrap iron are given by G. Follansbee, Superintendent of the Pittsburgh Chamber of Commerce, in a report to the United States Bureau of Statistics, as follows:

Year.	Ore.	Totals.	Year.	Ore.	Totals.
1870, . . .	44,900 tons.	319,720 tons.	1875, . . .	175,596 tons.	410,604 tons.
1871, . . .	75,820 "	367,207 "	1876, . . .	208,262 "	479,798 "
1872, . . .	115,420 "	496,648 "	1877, . . .	230,476 "	552,037 "
1873, . . .	320,844 "	533,918 "	1878, . . .	299,856 "	676,728 "
1874, . . .	255,317 "	631,182 "	1879, . . .	356,093 "	782,516 "
			1880, . . .	346,733 "	834,582 "

The receipts of ores and raw irons for the succeeding years are an approximation to these figures.

To this must be added the make of pig iron of the furnaces at Pittsburgh. The statistics of the American Iron and Steel Association give for the twelve years from 1874 to 1885 the following figures:

	Tons.		Tons.		Tons.
1874, . . .	143,660	1875, . . .	131,856	1876, . . .	128,555
1877, . . .	141,749	1878, . . .	217,299	1879, . . .	267,315
1880, . . .	300,497	1881, . . .	385,453	1882, . . .	358,840
1883, . . .	592,475	1884, . . .	487,055	1885, . . .	585,696

The output of the succeeding three years may be averaged at about the same as 1885.

To this, also, may be added the three other furnaces classed as in the vicinage of Pittsburgh. From these figures it would seem as though the metal market of Pittsburgh represented in the handling of ores and raw iron between 1,400,000 and 1,500,000 tons. As there is an amount received by river of raw irons, scrap, old rails and ore, and also the old rails and scrap of the vicinage, it is quite probable that the handling of these classes of iron approaches 2,000,000 tons a year, and represent a business value of about \$30,000,000. In addition to these iron values, the metal market is also enriched and augmented by the handling of lead, spelter, copper, tin, antimony, manganese and other metallic ores and substances, and in the precious metals, silver and gold. Some of these are statistically exhibited under their classification heads, while of others no definite statistics can be at present reached. It is, however, when it is stated that, in addition to the other metals mentioned, between \$3,000,000 and \$4,000,000 of silver and \$2,000,000 of lead is embraced in the valuation of one smelting company's business (the Pennsylvania Lead Company), not overstating the matter to say that the business of the metal market itself, as here sketched, will aggregate over \$40,000,000.

It is therefore probable that what might be called the entire iron business of Allegheny county is upward of \$200,000,000 annually on its present basis.

CHAPTER XII.

Glass Manufacturing.

For ninety-one years the making of glass has been not only a progressive mechanical industry in Allegheny county, but a constantly developing art. Dating back in the inception nearly to the year of the organization of the county, it is a fair exponent of the ratios of progress made in manufacturing. Begun when the little village of Pittsburgh had only fourteen hundred inhabitants, the making of glass has always been a noted industry of the community, and to day the third generation of glass makers are educating the fourth in the art, and the inherited skill of ninety years practical knowledge will continue to render the future of Allegheny county as famous for her glass factories as it has been in the past.

A location to become a great and controlling manufacturing point cannot attain force from the possession of any one or two requisites; neither can it leap into broad success, but must attain its growth through years of accumulation of skill practically obtained. While glass factories are to be found other places than in the locality of Pittsburgh and its vicinity, the accumulation of three generations of practical skill now indigenous to Pittsburgh will be of slow concentration elsewhere, and while the pen that may a score of years hence record the manufacturing growth of the country will no doubt have mention to make of other glass producing centers, the statistics will show no falling off in Pittsburgh's progress in her glass trade. Competition may develop economies that may reduce prices, and

rivalries invite attempts at superiorities in qualities, but at Pittsburgh all that will keep the glass trade of the city in advance is more possible than at any other location.

As history is in chief a presentation and review of facts which must necessarily be to some degree repetition, as from time to time a supplementary or fresh consideration of historic circumstances are indicated, so the history of Allegheny county's progress in glass manufacturing necessarily embraces some of the old as well as the new data and incidents, yet will not be none the less interesting in the homogenous history of the ninety years of glass manufacturing in the county of Allegheny. While it is generally accepted that the first glass works were established by General James O'Hara and Isaac Craig, in 1797, on the south side of the Monongahela river, about opposite the mouth of the Allegheny, there have been statements made of one earlier yet, and also that the first glass house was on the north side of the Ohio, on the present site of the Marine Hospital. Of these two claims there is no absolute evidence beyond hearsay and apparently trustworthy statements of reliable persons. It is stated on the authority of Wm. McCully, who died in 1869, the founder of the firm of Wm. McCully & Co., who learned his trade in O'Hara's glass works, that there was a small six pot glass factory called Scotts, established in 1795. Singularly enough in the other claim as to the first glass works being on the north side as before stated, the verbal authority is quite as positive. Mr. Joseph Eichbaum, of Eichbaum & Co., stationers, a grandson of the Peter Wm. Eichbaum whom Messrs. O'Hara and Craig brought from Philadelphia to manage their glass house business in 1797, says that his grandfather often pointed out to him as the site of the first glass house, a point where the Marine Hospital now stands on the south side of the Ohio. There was a glass house there commonly mentioned as built by Denny & Beelen, in 1802. The original manuscript article of the partnership by whom the works were built is before the writer, and shows the date to be April 29th, 1800, and the partners were Brigadier-General James Wilkinson, Lieutenant-Colonel John Francis Haintranck, Doctor Hugh Scott, of the borough of Pittsburgh, John Lewis De Razilly, and John Wilkins, the younger. The names being thus expressed in the partnership agreement. In the signatures to the paper is that of E. Denny, although his name is not mentioned in the co-partnership articles, to which John Lewis De Razilly signs his name simply "Razilly." An account current between Denny & Beelen and the Ohio Glass Company, of the date of January 1st, 1801, shows that that firm merely acted as agents or factors for the company.

The co-partnership articles contain no mention of any sum or other values to be contributed by the five partners, only that the benefits were to be divided in five equal parts. It is to be presumed from this and the items of the account current that Messrs. Denny & Beelen furnished, as commission men, all the supplies, paid the workmen and sold the glass, while the partners before mentioned contributed occasional money, as the first entry of the account current is January 1st,

1801, "Money advanced sundry times to Denny & Beelen, \$2,077.58," and on March 14th, "from Dr. Hugh Scott, \$100.00;" March 20th, "John Wilkins, \$200.00." The account current shows payment for hands, etc., to the amount of \$5,559.79, and that there is a balance due Denny & Beelen of \$731.56 on December 20th, 1802. The itemized sales of glass shows that the price of window glass then was \$12.00 per box of 100 feet, but the size is not given. Among the items is one for \$6.00 paid for a coffin for J. Kischdollar, who died at the works November 26th; also an item "For candles furnished J. Waggener for use of cutting room, 37 cts." The price at that date for cutting wood is shown by the item paid Wm. McNaughton for cutting five cords of wood at 50 cents a cord; $9\frac{1}{2}$ coarse ditto, 40 cents. An item "paid Richard Parker for six bushels of corn 40 cents per bushel," designates the price of corn then. The price of boarding horses at that date is shown by an item "paid Noble Willock \$1.50 for keeping two horses one day and two nights." There is no item which shows the rate of wages for blowers and cutters, but the item "paid John Clark for seventeen days, ending 18th of February last, as a composition mixer, at \$18.00 per month," shows the rate of wages for that class of work. Two cutters only are mentioned in the account—Thomas Algeo and John Waggener—and but four blowers—J. Kirchdollar, the one previously mentioned as having died at the works November 26th, and John Frank, Nicholas Howder and Casper Hain; also the teasers—John Park and Wm. Barnes.

Some other items in the account show that carpenters' wages were then 77 cents a day, and boarding \$2.00 per week. Among the payments is one on March 7th, 1811, to J. B. Falleur of \$36.73. This is the Frenchman brought from France to manage the works, called La Fleur, but in the account current it is spelled as above. While the documentary evidence of the time show that O'Hara's works were the first pioneer glass factory of Allegheny county, yet the positive statement of Wm. McCully as to the Scott's works of 1795, and the recollections of Joseph Eichbaum, Esq., before mentioned, has always left a legendary doubt as to its possible existence. The name of Dr. Hugh Scott in the Ohio Glass Co. at once indicates where the term "Scott's Works" of Mr. McCully's recollections originated, and would go to prove that his recollections of the date were at fault, while the same document showing that the glass works on the north side of the Ohio, at the present site of the Marine Hospital, was only begun in 1800, shows that Mr. Eichbaum's grandson has some erroneous impression of his grandfather's conversation relative to the site of the first glass house. Although these reminiscences are not really necessary to an exhibit of the progress of glass making in Allegheny county, they are given as not uninteresting in connection with the inception of glass making in Pittsburgh, and as an instance of how, on apparently good authority, with a certain showing of fact, errors become embodied as facts in history. The account current previously quoted from would seem to indicate that at the date of December 20th, 1802, the works had been abandoned, as there is not only a final balance sheet, but a foot note says that they (Denny & Beelen)

"have received a list of the tools taken by O'Hara's people, but the prices have not been received, and that there are yet a great many tools at the old works which they will probably take." This document would seem to settle that the works were erected after April 29th, 1800, and were abandoned previous to December 20th, 1802.

The establishment of the first window glass factory west of the mountains is due to the enterprise of the celebrated Albert Gallatin, who in 1797, in conjunction with a Mr. Nicholson and two Messrs. Kramers (Germans), began the manufacture of window glass at New Geneva. This firm obtained from \$14 to \$20 per box for their glass, and maintained high prices for a length of time, in opposition to the advice of Mr. Gallatin, who wished to put the price down to \$4.50 per box, giving as his reason that the enormous prices the firm were obtaining would soon invite competition, whereas the rate of \$4.50 per box would not invite rivalry, and the business remaining in their hands alone would be sufficiently remunerative. This shrewd advice was overruled, and through competition the prices declined to \$8 per box, when the firm ceased manufacturing. Mr. Gallatin's financial ability and business shrewdness has long been a matter of history, and his administration of the Treasury of the United States when its Secretary. He seems, however, to have had commercial instincts that would at the present day have made him a clever monopolist or the able president of a glass or some other class of manufacturing trust. The works established by Albert Gallatin were run as late as 1835 or 1836, having been operated in 1814 by Nicholson & Co., and are mentioned in 1826 as the Geneva Works, producing 4,000 boxes of glass. These works were 40x40 as originally built, with eight pot furnace, using wood for fuel and ashes for alkali. The title of the firm was first Gallatin & Co., and afterwards changed to New Geneva Glass Works.

The works of O'Hara & Craig were of frame with eight pot furnace holding not over 500 pounds of material to the pot. The pioneer master workman was Peter Wm. Eichbaum, before mentioned in connection with the establishment. He was the descendant of a family of that name at Allemand, Westphalia, who had been glass cutters through many generations, and left Germany for France to pursue his trade where he is said to have furnished some of the glass cut for the palace of Versailles when Louis XVI. was on the throne. After the fall of the Bastille, Mr. Eichbaum came to the United States, sailing from Amsterdam in 1792, and settled at Philadelphia from whence he came to Pittsburgh, as already related. In 1810 the following mention is made of his work in an account published that year of the manufactures of Pittsburgh. Says the account in mentioning glass cutting ; "This business has recently been established by an ingenious German (Eichbaum) formerly glass cutter to Louis XVI. late king of France. We have seen a six light chandelier with prisms of his cutting which does credit to the workman and reflects honor on our country, for we have reason to believe that it is the first cut in the United States. It is suspended in the Ohio Lodge No. 113 in the house of Mr. Kerr innkeeper."

This while a historic note of the early glass cutting at Pittsburgh, is also another incident marking the pioneer character of Allegheny county's manufacturing progress before noted.

Great and unexpected difficulties were encountered by Major Craig, who seems to have been the managing partner, as Gen. O'Hara who was much absent as appears from Craig's letters to him. Much trouble was experienced in the matter of pots. The clay of the neighborhood was found not to be suitable, and that used had to be brought over the mountains from New Jersey, in barrels at great expense. The frequent delays in receiving supplies of clay obliged the furnace to be allowed to go out of blast for want of pots. When the clay did arrive all the workmen were employed making pots, which not being allowed sufficient time to dry, when the furnace was put in blast the pots would be lost sometimes at the first melting. The workmen seem also to have been wanting in skill and easily angered and constantly threatening to stop work. Major Craig, although a man of great perseverance, seems to have become, after a time disheartened, and in some publications is said to have declined any further connection with the business in 1798, at which time the works were leased to a firm styled Eichbaum, Wendt & Co. composed of workmen. The Eichbaum of the firm was the Eichbaum brought from Philadelphia by Messrs. O'Hara & Craig. Just how long the workmen continued their lease does not appear, but it was until after 1800 as appears from a letter dated at Pittsburgh, August 5th, 1803 subsequently referred to, written to Samuel Hodgson of Philadelphia by Major Craig, who would seem to have resumed the management or an interest in the works. He writes:

"With respect to our glass manufacturing, the establishment has been attended with greater expense than we had estimated. This has been occasioned partly by very extensive buildings necessarily erected to accommodate a number of people employed in the manufacture, together with their families, and partly by the ignorance of some people in whose skill of that business we reposed too much confidence. Scarcity of some of the materials at the commencement of the manufacturing was also attended with considerable expense. We have, however, by perseverance and attention, brought the manufacture to comparative perfection. During the last blast, which commenced at the beginning of January and continued six months, we made on an average thirty boxes a week of excellent window glass, beside bottles and other hollow ware to the amount of one-third of the value of the window glass, 8 by 10 selling at \$13.50, 10 by 12 at \$15, and other sizes in proportion."

This is also of historical interest as giving the price of glass at that date at Pittsburgh, and also as to the manufacture of bottles and hollow ware. Just what was considered hollow ware does not appear, but it could not have been what is now called tableware, as there is no evidence that as late as 1803 that flint glass had been made at these works only in an experimental way. The attempt was made at these works in 1800 by a William Price, of London; as on September 5th, 1800, Major Craig wrote to Gen. O'Hara that an arrangement had been made with Eichbaum, Wendt & Co. to allow Mr. Price to use a pot of the furnace and give him such assistance as he needed. While Major Craig wrote to Gen. O'Hara, un-

der date of Nov. 17th, 1800, that he was satisfied of Mr. Price's ability to make white glass, and had sent Gen. O'Hara a specimen of that made by Price, the manufacture does not seem to have been carried on, for, as before observed, there is no mention in any records of its being made further than at the experimental trials.

It is generally understood that quite a number of workmen came to the west from the factories of the Messrs. Amlung, of Frederick, Md., about 1798 and 1800, although the date is indefinite. There is a story, or rather legend, that it was this party of workmen, chiefly Germans, whom Mr. Gallatin met at Wheeling while on their way to Louisville, Ky., to establish works there, and persuaded them to return with him to New Geneva and establish works there, he agreeing to furnish the capital.

In 1807 the products of O'Hara's works are recorded as valued at \$18,000. In this year George Robinson, a carpenter by trade, and Edward Ensel, began the manufacturing of flint glass under the style and firm of Robinson & Ensel. Disagreements arising in the firm, but little business was done, and in 1808 they were bought out by Messrs. Bakewell & Page. This firm continued the manufacture of flint glass under that style for many years, and produced beautiful ware after overcoming many difficulties arising from inferiority of material, bad construction of furnaces, want of skill on the part of his workmen, and their refusal to allow the introduction of apprentices. This intractability of workmen seems to have attended glass making from the time of O'Hara & Craig, when it is mentioned that they were petulant, easily angered, continually threatening to leave and opposed to apprentices, down to the present time, and calls for these comments because of its appearing from the history of strikes in glass factories to be an inherent trait in the disposition of glass workers.

The obstacles encountered by Mr. Bakewell would have disheartened a man less determined, but relying on his own judgment and possessed of great business ability, he persevered and overcame all his difficulties. He rebuilt his furnaces on a better plan and obtained good material, had competent workmen brought from Europe, by whom others were instructed, and the works finally became successful. To Mr. Bakewell belongs the credit of establishing the first successful flint glass house in the United States, and to Allegheny county the honor of its location. The firm was changed afterwards to Bakewell, Pear & Co., and was for many years the leading firm in Pittsburgh. Some years since, the original members of the firm having died, the younger Bakewells, after closing up the estate, retired from business, and the name of Bakewell ceased to be connected with the manufacture of glass. The ware made by this house, under its various styles of firms, was always famous in the trade, and to-day many of the older families of Pittsburgh have pieces of cut glass made at the works of this firm that are treasured heirlooms. It was some of the work from the establishment of Messrs. Bakewell & Page that is mentioned by a Mr. Ferron, who was at Pittsburgh in 1817, and recording in his journal various matters that came under his observation, wrote: "A pair of decanters, cut from a London pattern, the price of which was to be eight guineas (\$40.00)."

The site of the peculiarly historical flint glass works, because of their being the first successfully established in the United States, was at the foot of Ross street, in the city of Pittsburgh, on the bank of the Monongahela. The furnace completed in 1808 held six twenty inch pots. This was, in 1810, replaced by a ten pot furnace, and in 1814 another furnace of the same capacity was added. The works were burned down in the great fire of 1845, and immediately rebuilt, and are now occupied as part of the B. & O. R. R. depot. Mr. Bakewell is the Thomas Bakewell mentioned as the author of the address to the citizens of Western Pennsylvania on the outbreak of the rebellion, quoted in the general history of Allegheny County's Hundred Years. He filled during his lifetime many public offices of trust and honor.

In 1812 a new window glass factory was put in operation on the south side, then in what was called Sydneyville, in Lower St. Clair township, now 28th ward of Pittsburgh, on the lot bounded by the bank of the river and Muriel streets, South Side. The tract of 350 acres, of which this is a part, was deeded in 1769, by the Penns to John Ormsby. In 1812 a part of the tract passed to Beltzhoover, Wendt & Co., and the new window glass factory just mentioned was built upon it by them. This firm was composed of Daniel Beltzhoover, Geo. Sutton, John McMickle, Edward Ensell, Sr., Edward Ensell, Jr., Frederick Wendt, Charles Ihmsen and Peter Hain. The Frederick Wendt of this firm is probably the Frederick Wendt of Eichbaum, Wendt & Co., the lessees of O'Hara & Craig's works in 1798, and Edward Ensell, Sr., probably the Ensell of Robinson & Ensell of 1807. The firm was changed in 1822 to Sutton, Wendt & Co. In 1836 Christian Ihmsen, who was the son of Charles Ihmsen, of Beltzhoover, Wendt & Co., bought out most of the partners of Sutton, Wendt & Co.

As illustrative of the conditions under which the window glass workers performed their labor at that date, the following articles of agreement is quoted :

“ It is agreed by and between the undersigned, Christian Ihmsen and the undersigned journeymen glass blowers, as follows: The said journeymen, each one for himself and not for the other, agree to blow glass ware for the said Christian Ihmsen, at his glass factory in Birmingham, Allegheny county, Pennsylvania, for the period of nine months, commencing on or about the first day of September, 1836, and ending on or about the first day of June, 1837. The said journeymen are to be charged the sum of eight dollars for neglecting to work a whole day, and four dollars for neglecting to work a half day, unless the said neglect shall be occasioned by the sickness of themselves respectively, or their respective families, or other accident. Provided, however, if the party neglecting as aforesaid, shall have one or more persons working with him at a pot, he shall pay for neglecting as aforesaid, but five dollars for whole day and two and one-half for a half day; Provided, also, that no journeymen shall be charged as aforesaid, for neglecting to perform a day's work, if he give to Christian Ihmsen or his foreman, one day's previous notice of his intention to be absent from his employ upon a day certain. The said Christian Ihmsen to pay the said journeymen, respectively, their wages in full once a month aforesaid,—the first payment to be made in full on the fifth day of October, and the other months payments to be made on the fifth day of any respective month during the said term of nine months. Any of the undersigned who shall work at any time in flint glass shall be allowed for every day that he is

thus employed to the amount of what he can earn upon an average while working in green glass."

In 1838, Thomas I. Whitehead, Christian Ihmsen, Chas. Ihmsen, and William Phillips, organized a firm under the style of Whitehead, Ihmsen & Plunket, and built the glass works on the corner of South Tenth and Carson streets. Subsequently this firm changed to Young, Ihmsen & Plunket, (W. P. Young, Francis Plunket, Christian Ihmsen,) and afterwards to Ihmsen, Plunket & McKnight, (Charles McKnight, Chas. I. Ihmsen, Francis McKnight.) The other partners retiring, the works passed into the ownership of Chas. I. Ihmsen. Thomas I. Whitehead went to Cincinnati, where he died; Wm. P. Young went to St. Louis, where he died; Francis Plunket died at Pittsburgh. In 1855 the firm became C. Ihmsen & Co., (Christian Ihmsen, Chas T. Ihmsen, Franklin McGowin, and Wm. Ihmsen.) In 1860, Franklin McGowin retired from the firm, and its style was changed to C. Ihmsen & Sons. In 1862, Christian Ihmsen died, and the business was continued under the same firm style, composed of Chas. T. Ihmsen, Wm. Ihmsen, and Christian Ihmsen, Jr. Subsequently the firm became the Ihmsen Glass Co., Limited, occupying the same site of the glass works of the firm of Beltzhoover, Wendt & Co., of 1812. The works at the corner of Tenth and Carson having been during the changes, vacated, and subsequently occupied by new firms. This genealogical record of this particular firm is given because it not only directly connects the glass business of to-day in the city of Pittsburgh with the second window glass house successfully established in Allegheny county, but has virtually, by heritage, remained in the family for over seventy-five years, and thus becomes the oldest firm in the glass trade, having continuous family membership.

In 1829 the Union Flint Glass Works were established by Hay & McCully. In 1831 the firm became Hay & Campbell. In 1834 the firm became Park & Campbell, and in 1836 Park, Campbell & Hanna, and in 1838 Park & Hanna; in 1846 Hannas & Wallace; in 1849 Wallace, Lyon & Co. With the formation of this firm James P. Wallace, of the firm, inspired with the ambition to improve the quality of the flint glass then made, turned the efforts of the firm in that direction, and it is to him the credit is due of creating the rivalries through which the flint or crystal table ware of the Pittsburgh factories began to increase in its beauty and quality.

In 1852 the style of the firm was changed to James B. Lyon & Co., the title of the works having been previously changed from its original one of the Union Flint Glass Works to the O'Hara Works, and in 1875 a company by the title of the O'Hara Glass Co., limited, came into the proprietorship of the works—James B. Lyon, chairman; John B. Lyon, treasurer, and Joseph Anderson, superintendent.

In 1830 Curling & Price (Alfred Curling, — Price) established what was known as the Fort Pitt Glass Works on what is now Washington street, near Fifth avenue, for the manufacture of flint glass ware. Subsequently this firm became Curling, Robertson & Co. (A. Curling, Morgan Robertson, — Ditheridge). Through the death of A. Curling and M. Robertson the works afterwards passed

into the ownership of Ditheridge & Co., under which style the works are still continued in the same location, but are now principally engaged in the manufacturing of lamp chimneys.

In 1831 Wm. McCully, in association with Capt. John Hay, built the bottle-house on the Allegheny river near the foot of Twentieth street. These works were flooded out in 1832, when Mr. McCully withdrew, and Capt. John Hay continued to operate the works, Mr. McCully building a new works at the corner of Liberty and Sixteenth street. In 1834 he became interested with Wm. Ihmsen in a window glass factory at Monongahela City. In 1840, when Wm. Ihmsen died, Mr. McCully associated himself with Frederick Lorenz in carrying on the Sligo Window Glass Works, established by him in 1824, and also the old O'Hara Works, Thomas Wightman being also a partner. Subsequently the firm separated, and in 1850 Mr. McCully bought from F. Lorenz the Sligo Works and formed a new firm in association with his son under the firm style of Wm. McCully & Co. Frederick Lorenz and Thos. Wightman, under the firm style of Lorenz & Wightman, organized another firm, retaining the old O'Hara Works. The firm of Wm. McCully & Son continued until 1852, when Mark W. Watson becoming a partner, the style of the firm became W. McCully & Co. In 1869 Mr. McCully died, and the business was continued under the same firm style by Mark W. Watson and John M. King, which it continues to the present time.

In 1834 Samuel McKee and James Salisbury and others established a window glass works in Sligo. In 1836 Samuel McKee sold out his interest in the firm and erected a window glass factory near what is now South Thirteenth street and Carson, under which style the firm continues, Samuel McKee being, however, dead, and other partners by inheritance and by purchase being admitted. Mr. Salisbury and his partners discontinuing the business.

In 1834 William Eberhart began making window glass at Bellevernon, on the Monongahela river. The works subsequently passed into the ownership of George A. Berry & Co., and from him to the firm of R. C. Schmertz & Co. (Robert C. Schmertz and others). Mr. Schmertz died in 1888, but the business is still continued under the same style.

In 1840 Mr. Phillips, afterwards President of the Allegheny Valley Railroad, formerly a partner in Whitehead, Ihmsen & Plunket, built a glass works for making flint glass at the corner of Try street and Second avenue. He subsequently associated with him Wm. Best, under the firm of Phillips & Best. Subsequently Mr. Phillips disposed of his interest, and Mr. Best also retiring from the business the works ceased to exist about 1868-70.

In 1841 Alex. Chambers, David H. Chambers and John Agnew established a factory for the making of green glass in what was then the Fifth ward of the city, under the style of Chambers & Agnew. Subsequently John Agnew retired and — Anderson and Alex. and David H. Chambers formed a copartnership, under the style of Anderson, Chambers & Co., to manufacture window glass and vials, and built works in Birmingham at what is now the corner of South Sixth and Bingham streets.

In 1843 the firm became A. & D. H. Chambers, Mr. Anderson retiring. D. H. Chambers died in 1862, in Chicago, but the business was continued under the management of Alex. Chambers under the same firm style. Mr. Alex. Chambers died in 1875, and his son, James A. Chambers, succeeded to the business, and continues the business under the style of A. & D. H. Chambers.

In 1849 Wilson Cunningham and — Cunningham organized a firm under the style of Cunningham & Co. for the manufacturing of window and green glass and built a factory. In 1864 the firm became Cunninghams & Ihmsen (Dominick Ihmsen). In 1886, Wilson Cunningham having died, and D. Ihmsen having retired from the firm, the ownership passed to D. O. Cunningham, a son of Wilson Cunningham, by whom the business is still continued.

In 1851 the firm of Lorenz & Wightman (Frederick Lorenz and Thos. Wightman), which, as before mentioned, arose from the separation of the firm operating the Sligo Works, took the O'Hara Works. Mr. Wightman subsequently retired, and the works were carried on by F. Lorenz; when he died, his son, Frederick Lorenz, carried on the works for a few years, after which they passed into the possession of Fahnestock, Albree & Co., who operated them for about two years, in about 1860, 1861 or '62. After that M. A. Lorenz, Thos. Wightman and Nimick & Co. carried on the works under the firm style of Lorenz & Wightman until M. A. Lorenz died, when the firm became Thos. Wightman & Co., and has so remained until the firm of Thos. Wightman & Co., Limited, was formed, which is the present style of the firm.

In 1851, Adams, Macklin & Co. established a factory at the corner of Ross and Second streets, for making flint glass. Shortly after the formation of this firm, Mr. Adams began a series of experiments to demonstrate the practicability of the use of lime as a substitute for lead in making table ware, with a view to cheapening the cost of its production. This was an important "new departure" in the glass making, resulting in making Allegheny county the controlling centre in table ware. The cost of lead made an important item in the cost of its manufacture, and the substitution of lime, it is apparent, would at once reduce it. Mr. Adams began his experiments about 1850; and, although several times at the point of abandoning the attempt, having "the courage of his own convictions," persevered to the crown of success. While for a few years lime glass, as it was called, suffered in comparison with lead or flint glass, as it was termed, continued practice and improved knowledge in the use of lime has resulted in the production of "lime glass" of as great beauty as the old flint glass, of which little is now made, except for the purpose of making "cut glass" or druggist ware, for which lead or flint glass is requisite, owing to its greater weight and ductility. At this time, or perhaps a short time before, Wm. Phillips, of Phillips & Best, also began a series of experiments in the use of lime in the manufacture of glass, but does not seem, from the recollections of the glass workers, to have been successful, and it is freely conceded that to John Adams the glass trade of Allegheny county is indebted for that great advancement in the processes of its manufacture. The firm of Adams, Macklin & Co. was suc-

ceeded by the present firm of Adams & Co. The works were, in 1860, removed to South Tenth street. Mr. Adams died in 1887. The business, under the same firm style, is carried on by the surviving partners, George F. Easton, D. E. Carle, Godfrey Miller, Aug. A. Adams, William Adams and S. G. Vogeley.

In 1850, Bryce, McKee & Co. established a factory for the manufacture of table ware on South 21st street and Wharton street. In 1852, the firm became Bryce, Richards & Co., and in 1866 Bryce, Walker & Co., and in 1882 Bryce Bros., under which firm style the business is now prosecuted.

In 1853, Bobe & Albeitz erected the factory for the making of vials etc., called the Eagle Works, which in or about 1855 passed into the ownership of F. Bobe, and at a later date the business was closed and the works abandoned.

In 1853, F. & J. McKee established a factory at South 18th and Bingham streets, for the manufacture of table ware. This firm subsequently became McKee Bros., under which style it still continues, and the firm have lately erected extensive works near Grapeville in that natural gas district.

In 1855, T. A. Evans established a factory for the manufacture of flint vials, called the Mastodon, which afterwards passed by purchase to W. McCully & Co. About this date a firm under the style of Mulvany & Ledlie had a factory for making table ware. The firm subsequently became Ledlie & Ulam. Through financial difficulties the firm ceased about 1860.

In 1859, a firm under the style of Johnson, King & Co. built and put in operation a table ware factory on South 18th street, which in or about 1864, became King, Son & Co. In 1883, the firm style was changed to King, Son & Co., Limited, and in 1887 to King Glass Co., W. C. King, president; George B. Swift, manager, A. H. Leitch, secretary and treasurer.

In 1859, Wolfe, Plunket & Co. established a firm for the manufacture of window glass, which firm, in 1863, became Wolfe, Howard & Co. (John A. Wolfe, Abner U. Howard,) under which style the business is now prosecuted.

In 1860, Hale, Atterbury & Co. established a table ware factory at First and Carson streets, which subsequently became Atterbury & Co. and so continues to the present time.

In 1863, the Excelsior Flint Glass Co. were established, and began the making of chimneys, under which style the firm still continues.

In 1863, Sheppard & Co. established a factory for the manufacture of glass ware, which in 1865 passed into the ownership of Campbell & Jones, and in 1886 Mr. Campbell retiring, the firm became Jones, Cavitt & Co., Limited, Jenkins Jones, chairman; A. M. Cavitt, treasurer; and Henry Wilson, secretary. In the same year W. H. Hamilton & Co. built and put in operation a flint vial works, under which style they are still carried on. In the same year Plunket & Co. established a table ware factory at the head of 14th street, which subsequently passed into the ownership of the Independent Glass Co., manufacturing crystal fruit jars.

In 1864 the Pittsburgh Glass Manufacturing Co. was established, erected works for the manufacture of table ware at the corner of South 8th and Washington

streets. This works afterwards passed into the proprietorship of Challinor, Hogan & Co., and subsequently the works were removed to Tarentum, where they are still carried on under the same style.

In 1866, Melling, Estep & Co. built and put in operation a window glass factory at Jane and South 22d streets, which firm subsequently became Stewart, Estep & Co. In the same year Page, Zellers & Duff also established a window glass factory at South 21st and Mary streets, which subsequently became Duff & Campbell, who were succeeded by T. Campbell & Co. The same year Beck, Phillips & Co. also erected a window glass factory at South 19th and Mary streets, which firm afterwards became Phillips & Co., and so still continues.

In 1866 the Richard & Hartley Flint Glass Co. was organized, and built works at the corner of Pride and Marion streets. These works were afterwards removed to Tarentum, where they are carried on under the same style of firm. The same year Ripley & Co., (D. C. Ripley, George Duncan,) built and put in operation works for making table ware on South 10th street. In 1875 the old firm dissolved and D. C. Ripley forming a new firm with other associates, under the style of Ripley & Co., built new works at the corner of South 8th and Bingham streets, which are still carried on under that firm style. George Duncan also forming a new firm under the style of George Duncan & Sons, (George Duncan, Augustus H. Heisey, James E. Duncan,) continued the business at the old South 10th street works, where the business is still carried on under the same firm style.

In 1866, John Agnew & Son built a vial factory which firm subsequently became Agnew & Co. In the same year Tibby Bros. also built a vial works at Sharpsburg, where, under the same firm style, the business is continued.

In 1868, Doyle & Co., (Wm. Doyle, Joseph Doyle, John C. McCutcheon, Wm. Beck,) established a table ware factory at South 10th and Washington streets. In 1876 Wm. C. McCutcheon retired. In 1877 Joseph Doyle retired, and the firm was continued by Wm. Doyle and Wm. Beck, under the same firm style of Doyle & Co.

In 1867, Knox, Kim & Co. established a window glass factory at No. 70 Carson street, which firm subsequently became Abel, Smith & Co., under which firm style the business is now continued.

In 1869, Reddick & Co. established at chimney factory at South 22d and Josephine streets. This firm became, in 1878, Evans, Sell & Co., and in 1877, Evans & Co., and in 1881, Thos. Evans & Co., having erected a new factory at South 18th and Josephine streets, and in 1887, Thos. Evans Company, John Gallager, president; Thos. Evans, secretary, treasurer, and general superintendent. This being the largest chimney factory in the world.

In 1872 the Rochester Tumbler Co. established works at Beaver, with office at 957 Liberty street, under which style the works are now operated. It being claimed that it has the largest capacity of any table ware works existing.

In 1874 the Iron City Window Glass Works were established by a stock company. In 1879 they passed into the hands of Wamhoff & Co., (George Wamhoff, R. H. Gilfuss, George Wamhoff, Jr., H. H. Nieman.)

In 1879, C. L. Flaccus began the manufacture of flint glass vials and bottles, erecting works at Tarentum for that purpose with the business office at Pittsburgh. In 1879, Bryce, Higby & Co. established a table ware factory. In 1880, O'Leary Bros. & Co. built and put in operation a window glass factory. In 1880 the Phœnix Glass Co. was organized, and established their works at Phillipsburg, with office at Pittsburgh. To this firm is freely given by the trade the credit of the introduction of the unsurpassed colored table ware of Pittsburgh. To them is also due the credit of reviving the production of cut glass as a manufacture of Pittsburgh. The making of cut glass had died out in Pittsburgh, and for fifteen or twenty years the trade in that line had passed to the east, chiefly to the New England States. In 1885 the Phœnix Co. began the making of cut glass globes, and in 1886 the cutting of table ware. In consequence, Pittsburgh is again a cut glass market, as other firms are following in the lead of the Phœnix Co. This will also increase the making of pure flint glass at Pittsburgh, in which nothing but sand, lead and potash is used. The lead in combine with the potash gives the peculiar brilliancy of cut glass. To-day there is no finer cut glass made in the world than is produced at Pittsburgh.

In 1879 J. T. & A. Hamilton established a flint vial factory at Twenty-sixth and A. V. R. R., under which style the works are still carried on.

In 1872 the Keystone Flint Glass Manufacturing Co. was organized and put works in operation at the corner of Third avenue and Try street, for the purpose of making flint glass chimneys. This company was succeeded by Geo. A. Macbeth & Co., the works being removed to the corner of South Tenth and Carson streets.

The genealogy of the various firms from 1797 to 1888 have thus been given so far as it was possible to trace them. There were, no doubt, some firms which, in the fluctuations of the trade, have come into existence and after a brief commercial life ceased to be. There may possibly be omissions in the genealogy of the firms given, as in the numerous changes it has been difficult to follow the incoming and outgoing partners.

This genealogical record of the successors of glass manufacturing firms of Allegheny county may appear to the casual reader as somewhat wearisome. It must be recollected, however, that the genealogy of kings is at all times historically interesting. These glass manufacturers of Pittsburgh are the kings of the glass trade and, possibly, the world their future dominion.

Time works wonderful changes in all manufacturing developments, as the past forcibly illustrates. That the genius, ingenuity and research of men in the mineral kingdom will develop new substances, new combinations for the use of mankind, is not to be doubted.

But in all ages, so far back as history or legend runs, glass has always been foremost in supplying the needs and luxuries of the race, changing only in its beauty, quality and cheapness. The firm hold that Allegheny county has, through its ninety years of glass making, acquired upon the art, is a guarantee that another ninety years will find it as far in the front and with as firm a hold on the trade of

that period as it has now on that of to-day. This genealogical history of the earlier firms engaged in the glass manufacturing, their immediate success, and the more eminent additional firms, has been given space therefore, not only that the progress in factories might be exemplified, but that a record might be made that when, perhaps, in another century Allegheny county shall again celebrate its centennial, and the names of the present glass manufacturers be to the readers then what O'Hara, the partners in the Ohio Glass Co., and Thomas Bakewell are to us, their commercial history can be traced. To present the progress of glass manufacturing in Allegheny county in exact statistics is almost as difficult as to trace the origination and subsequent changes in the various firms. Of the earlier years but few statistics are obtainable, and even those of later years are not as full as might be, if it were not for the reluctance of firms to give details of business. Sufficient can, however, be presented to show how rapidly the glass manufacture has increased, the controlling position the glass trade holds, and the foreshadowing the figures make of its future.

In 1797 there was but one window glass house with eight small pots, making but three boxes of a hundred feet each to a blowing; and the value of the glass made in 1803 was, at the prices then, of from \$12.00 to \$15.00 a box, \$12,500; and glass cutting of a value of \$500. Its produce reduced to the value of to-day would not reach \$2,500, or less than the value of two or three days' output of a window glass factory now. In 1807 the same glass works are quoted in *Cramer's Almanac* as producing window glass to the amount of \$18,000.

In 1810, according to, "a cursory view of the principal manufactures in and adjacent to Pittsburgh" as given in *Cramer's Almanac*, "there were three glass works in handsome operation, producing flint glass to the value of \$30,000, and bottles and window glass to the value of \$40,000." As at this date there were only O'Hara's and Bakewell & Pages works in the town, it is possible that the make of the New Geneva works are included. Beltzhoover, Wendt & Co.'s glass house not being erected until 1812. However the United States census of 1810, enumerate three glass houses at Pittsburgh, and the value of their products at \$62,000, and mentions one glass cutting establishment producing \$1,000 of work. In 1813 there were five flint glass factories producing green and flint glass to the amount of \$130,000.

In an account of the manufactories of Pittsburgh made in 1817, by order of the city councils, two flint glass factories, employing 82 hands and producing \$110,000 of ware, and three green glass factories producing \$130,000 of glass and employing ninety-two hands are of record.

The statistics of the trade from 1817 to 1825, do not anywhere appear to have been collected. For a portion of that interval, as recorded elsewhere, Allegheny county, and especially Pittsburgh, was suffering from the general depression of trade consequent on the cessation of the war of 1812-14, after which a great decline in prices in all commodities obtained, being the reaction that always follows the high figures to which war demands force prices. It was in 1822 that the city

began to recover from the commercial disasters of the reaction, and in 1824, a new window glass factory was put in operation. In 1825, Niles Register gives the value of window glass at Pittsburgh at \$135,000, being 27,000 boxes, and the flint glass product at \$30,000. This latter item conflicts with the statement of the city councils of 1817, where the two flint glass house product was stated at \$110,000. As there is no evidence of the flint glass houses of 1817, not running in 1825, and the firm of Bakewell & Page at or about that date having increased their capacity, Niles Register was no doubt misinformed.

In 1826 the accounts of that date show that there were at "Pittsburgh and vicinity" nine glass works in operation, of which but four were at Pittsburgh, there being included in the nine two window glass factories at the immediate neighborhood of Brownsville, one at Perryopolis, on the Youghiogheny, and one at Williamsport and the New Geneva works. There are no statistics of the value of the flint glass product at that date, but the total of window glass is given at 27,000 boxes, which is presumably of the same value as the same number of boxes mentioned in 1825 by the Niles *Register*. In 1831 there were four window glass and four flint glass houses at Pittsburgh; there having been established during the past five years two flint houses, one in 1829 and one in 1830, and two of window glass, although the exact dates when "put in fire" cannot be ascertained, the changes that occurred, and the dates thereof, not being attainable by the firms who, in some cases, succeeded to the occupancy of the works, they not being direct successors of the firms by whom the works were built. These eight glass works employed 102 hands and produced glass of the value of \$500,000.

In 1837, according to "Lyford's Western Directory," and "Harris' Directory of Pittsburgh and Allegheny," there were thirteen glass factories at Pittsburgh, six of which made flint glass, five window glass, one vials, and one black glass, there having been established in those six years four flint, one window, one vial and one black glass house. These factories employed about 550 hands, and produced glass to the value of about \$750,000, as nearly as can be estimated, no full account being given in the authorities quoted. In 1856 a full statistical account of the glass works at Pittsburgh is given in "Pittsburgh As It Is," a volume published in that year. From it it appears that there were then nineteen firms engaged in the manufacture of glass at Pittsburgh. They worked thirty-three factories, each works having from one to five. For the information of the general reader it is proper to state that a factory, in the technical language of the trade, is a certain number of pots, varying from five to twenty, in one cupalo, under the same roof or connecting building. Of these thirty-three factories fourteen were making window glass, eight flint glass table ware, eight vials and two black glass, twelve new firms in the preceding nineteen years engaging in the business, erecting nineteen factories, of which five were for manufacturing of table glass, eight for window glass, five for vials and one for green glass. These thirty-three factories being worked in 1856 employed 1,982 hands, to whom they paid \$910,116 of wages. They produced 6,840 tons of flint glass of a value of \$1,147,540; 561,000 packages

of 50 feet each of window glass of a value of \$1,123,200; 137,700 packages of vials, bottles and druggists' ware of a value of \$320,250, and 80,000 demijohns of a value of \$32,000, in all \$2,631,990, the value of the output of the factories having increased in the nineteen years nearly 300 per cent.

In 1865 there were, at Pittsburgh, twenty-two firms engaged in the glass business, working fifty-five factories. Of these firms seven had been formed since 1856, four firms having retired in nine years. The fifty-five factories contained 528 pots. Of these factories seventeen made window glass, nineteen table ware, eleven green glass, four vials, and three chimneys. It should not be overlooked that this enumeration is by factories, some firms working from two to three each. These works produced about 400,000 boxes of 50 feet each of window glass, of a value of about \$2,600,000; about 4,200 tons of table ware, worth \$2,000,000; the vial and green glass house 60,480,000 of bottles and vials, of a value of \$2,100,000. Of the chimney house productions there is no statistics.

It must not be overlooked that these nine years included the "war period," and the values are based on the high prices then ruling. From 1863 to 1864 there was shipped from the glass factories of Pittsburgh 11,633 packages or boxes of window glass to eastern cities, and 233,037 west; 141,646 boxes and barrels of glass ware east, and 308,009 west. In the same time Pittsburgh glass manufacturers paid \$174,375.11 of internal revenue, or seventy-four per cent. of all the revenue from glass in Pennsylvania, and twenty-nine per cent. of all from the United States; and in the period from March, 1865, to March, 1866, \$276,364.44. In 1876, as shown in *Pittsburgh and Allegheny in the Centennial Year*, a volume published in that year, there were thirty-eight firms, working seventy-three factories, having 690 pots. Of these twenty-four were window glass factories, having 234 pots; twenty-five were table glass factories, having 262 pots; eight were vial bottle and druggist ware factories, having 66 pots; eleven were green glass, or bottle and jar factories, having 75 pots; and nine chimney factories, having 90 pots. The window glass factories were then producing 840,000 boxes of 50 feet each of lights, weighing 29,400 tons, and of a value, at the rates in that year, of \$2,500,000. The table ware factories produced 15,000 tons of table ware, of a value of \$2,225,000; the vial factories articles to the value of \$500,000; the green glass houses, bottles, fruit jars, and similar wares, to the value of \$1,350,000; the chimney factories, 16,200,000 chimneys to the value of \$600,000.

In the period from 1865 to 1876, owing to the reaction from the high prices of the war years, the selling rate of glass had suffered large declines, and, therefore, while the sum total of the values do not exhibit a large increase over those of 1865, as given, yet it will be noted they exceed those of that date by about \$1,000,000, even under the great reductions in cost. The entire value of the production of 1876 being given at over \$7,000,000. At that time there were employed in the various factories 5,248 hands, whose wages amounted to \$3,479,000 a year; and the capital in the buildings, machinery and grounds was \$4,137,587, and the space occupied by the grounds 208 acres. In the period from 1865 to 1876 there was a rapid increase in the number of firms engaging in the business.

Five new firms being formed to manufacture window glass; five to make table ware; two to make vials and druggists' ware; one to make green glass; and four to make chimneys. An increase of seventeen factories, having 237 pots, being a growth in the ten years, equal to ninety per cent. in the number of all the firms from 1795 to 1856, and about seventy-five per cent. on the number of factories. And an increase in firms over those in 1865, of eighty per cent., and over forty per cent. in the number of factories and pots, over one hundred per cent. in the production of window glass; nearly three hundred per cent. in the amount of table ware made: and twenty per cent. in the gross value of the product under the very large falling off in selling rates, equal in many classes of goods to quite fifty per cent. In 1886, in "Pittsburgh's Progress and Industries" a volume published in that year, there are enumerated fourteen firms manufacturing window glass, working twenty-nine factories having 286 pots, with a productive capacity of 900,000 boxes of fifty feet each, a year. At the rates in that year, which were greatly below those of 1876, worth \$1,800,000. There were, in the same year, fourteen firms manufacturing table ware at Pittsburgh, and two at Tarentum, making sixteen in Allegheny county, having thirty-six factories with 380 pots, making about 27,000 tons of table ware, worth about \$3,500,000. There were also six distinct firms manufacturing chimneys, with eleven factories having 134 pots. One of these works being the largest in the world, as is also one of the table ware works. These factories turn out over 30,000,000 chimneys a year, other goods, such as lantern globes and reflectors, and the total value of their products is about \$1,100,000, beside the product of the table ware factories which also manufacture similar goods. There were also four firms engaged wholly in the manufacture of vials, bottles and druggists' ware, having ten factories with 104 pots, besides the product of one of the window glass houses which made also this description of ware. The value of the product is given at \$850,000. There were eight green glass works with eleven factories with 80 pots, producing 19,000 tons of manufactured glass worth about \$600,000. Being a total of forty-two firms having ninety-three factories, and working 984 pots, employing 8000 hands, to whom they paid annually over \$4,000,000 wages, and made glass as before stated of a value of \$7,500,000. In this decade the increase in the firms was comparatively small, but it will be noted that the increase was very progressive in the number of factories and pots, that of the latter being thirty-three per cent., and in the factories about thirty per cent., while in the capacity of the pots there was also a large per cent. of increase.

There is also an increase of over fifty per cent. in the number of hands employed. The figures quoted are, most probably, below the exact statistics, for in the three chief authorities quoted from 1856 to 1886, inclusive, the compiler deplores not being able to obtain full statistics for various reasons, and states his figures as below the actual facts from that cause. While the increase in the number of firms, factories, pots, employees, and quantity of manufactured goods evinces a remarkable progress, the statistics of the total value of the products do not seem to be commensurate with the increased bulk of the production. This, as before men-

tioned, is due to the large decline in the selling rates from 1856. That some idea may be formed of this, and an approximate estimate made by the reader of what the value would be under old time rates just before and during the war, the following ruling price at various dates are quoted.

In 1854, what are known as Diamond goblets sold for \$2.33 per dozen; in 1864, at \$3.50; this was the "war period" when the cost of all things had been greatly increased. In 1874 the same goblet was sold for 78 cents a dozen, and in 1888 at 40 cents a dozen. In 1854, wine glasses sold at \$1.25 per dozen; in 1864, the "war period," at \$1.75. In 1874, at 50 cents; in 1888, at 30 cents. In 1854, lamp chimneys sold at \$1.75 a dozen; in 1864, at \$3.25; in 1874, at 50 cents; in 1888, at 24 cents. In 1854, pressed saucers sold at 40 cents a dozen; in 1864, at 72 cents; in 1874, at 25 cents; in 1888, at 16 cents. In 1854, tumblers sold at 66 cents a dozen; in 1864, at \$1.30; in 1874, at 55 cents; and in 1888, at 37 cents. In the comparison the articles chosen have been selected as those of a standard character, as the glass ware of a more elaborate character would be only confusing, from different factories having varying designs and especial patterns. The ratio of governing prices are, however, similar.

In 1854-55 8x10 window glass sold at \$3.50 a box of 50 feet, and what are known as brandy bottles at \$8.25 per gross. In 1864, the "war period," 8x10 window glass sold at \$3.75 per box of 50 feet, and brandy bottles at \$11.50 a gross. In 1888 8x10 glass sold at \$1.80 per box, and brandy bottles at \$6.00 per gross.

During the periods stated the wages of the glass workers have increased from those before the war about 30 per cent. In the same periods the preceding paragraphs show the great increase of factories, and the whole comparison shows how control of home markets increase manufacturing establishments, to the increase of consumption of material, the furnishing of employment, and at the same time reduce the cost to consumers. The question naturally arises could such results have been attained without such protective tariffs as would enable American manufacturers to compete with the European.

A further exemplification of this is shown in the article of ordinary squat colored glass globes which the Phoenix Glass Co. began making in 1884. At that time this article was all imported, and the prices were \$12 for ordinary colors, and \$15 for ruby, per dozen. When the Phoenix came into the market the foreign manufacturers began reducing prices to hold the market, the American manufacturers meeting their rates. The European maker then proclaimed their intention to crush them out, and the prices were reduced, for that purpose, to \$4 for ordinary colors and \$6 for ruby.

Under competitions in 1888 these globes are selling at \$2.00 for ordinary and \$4.00 for ruby. This shows, first, what control of American markets by European manufacturers would cost the consumer there, for the inference is that if they can now afford to sell at the immense reductions from the rates of 1884 that the profits they were obtaining from the American purchaser were simply enormous; second, that it is by American competition that they are held down to the greatly reduced

rates of 1888. For under the inherent qualities of human nature it is not to be doubted that could European manufacturers, by crushing out those in the United States, again obtain control of the market, they would endeavor to re-establish the prices of 1884, as is shown in several instances by statistics.

Third, that all legislation that enables the American manufacturer to maintain his control of the home market and power to compete without ruin, is more to the advantage of the consumer than to the manufacturer, to say nothing of the advantage of labor thus having employment in making that which would otherwise be made in a foreign country by foreign workmen. And fourthly, that the glass manufacturers of Pittsburgh, through the tariff protection, which has enabled them to build up the great glass business of the city, can now compete with European manufacturers and pay labor the high standard of wages that have been obtained by American glass workers. The inference is plain.

The figures that have been given of the growth of the glass trade, as in comparison with its own ratios of progress, are instructively illustrated by the comparative statistics with the growth of its own population and that of the south and west, and the increase of its production of glass. The increase of the business of any producing center with the ratios of the growth of its natural markets would be held commercially satisfactory if it kept pace in corresponding ratios with that market. At the date at which the manufacture of glass was first started in Pittsburgh, 1797-1800, the population of the city was 1,565, or about four-tenths of one per cent. of that of the western country to which the producers of glass would look for consumption, which was 385,647. At that date the population of Pittsburgh was four-tenths of one per cent. of that of the east and west, and its production of glass equal to two cents per capita, and about four dollars per capita of the population of the town. In 1870 the population of Pittsburgh was equal to one and four-tenths of the west and south, and in 1875, it is recorded that the product of the window and green glass was \$3,750,000, or equal to twenty-five cents per capita of its market, and about \$19 per capita of its own population, while for her trade to have increased in proportion with its markets and its own, it would have needed that it should have held the same ratio as in 1800. The statistics show that it had increased 500 per cent. more than was required. In table glass ware using the same calculations as to ratio as in window glass, they show that in 1810 the productions were, as with population of the west and south, three cents per capita, and with the population of Pittsburgh, about six dollars.

In 1875 the ratios were with the census of 1870, as about fourteen cents per capita, for the population of the south and west, and as about eleven dollars as to the population of the city, of the amount of 1875. The production of window glass in 1855 was of a value of \$1,484,430; in 1875 it was \$3,750,000, an increase in value of production of \$2,295,550, an increase of over 150 per cent. in twenty years. In 1855 the production of table glass ware was of a value of \$1,147,540, and in 1875 the value of the production was \$2,250,000, an increase of 100 per cent. in twenty years. In 1885 the value of the production in round numbers is

of record as \$3,000,000, a further increase in ten years of about 33 per cent. on the production values of 1875, an increase on those of 1855, in thirty years, of over 180 per cent.

The best goods at the lowest cost create the most magnetic market. The foregoing statistics indicate that such has been the status of the glass market of Pittsburgh. If it has been such in the past what may not it become in the future under the use of gas fuel, when thus glass of a quality not before possible is the daily product of the glass works. The table ware has a brilliancy of luster and a clearness, and the colored ware a delicacy of tint not to be attained with coal fuel. Where that is used the sulphur flames destroy the brilliancy of the material, while with gas fuel the wares come from the "lehrs" with a brilliancy in crystal ware before unattainable, and the colors in tinted glass glow with all the richness of the natural hues. The same result is apparent in window glass. In an experiment, by visual test, it was found that it was impossible to distinguish any thing clearly through six plates of window glass made with coal fuel, but that the ordinary printed matter of a newspaper could be read with ease through three times the number of plates made with gas fuel. That the glass made with coal fuel had a dull, unbrilliant surface, while that made with gas fuel had the polish of French plate. Touching this, the following from "Pittsburgh's Progress, Resources and Industries," is pertinent:

"A location to become a great and controlling manufacturing point cannot attain force from the possession of any one or two requisites; neither can it leap into broad success, but must attain its growth through years of accumulation of skill practically obtained. While it may possibly be that a sufficiency of gas fuel may be found other places than in the locality of Pittsburgh and its vicinity, the accumulation of three generations of practical skill now indigenous to Pittsburgh will be of slow concentration elsewhere, and while the pen that may a score of years hence record the manufacturing growth of the country will no doubt have mention to make of other glass producing centers, the statistics will show no falling off in Pittsburgh's progress in her glass trade. Competition may develop economies that may reduce prices, and rivalries invite attempts at superiorities in qualities, but at Pittsburgh all that will keep the glass trade of the city in advance is more possible than at any other location."

The improvement in the quality and beauty of the glass from their factories, has at all times been a consideration with the glass manufacturers of Allegheny county, and while that has gone hand in hand with the effort to cheapen the cost, quality has not been sacrificed to cheapness, and the best material an end to be reached. Sand is a large factor in glass making, and as glass is to a great extent but melted silica, the best and purest of that ingredient is desirable. About 1838, L. M. Speer originated a method of preparing sand by a methodical manner, that cleaned it of much of its impurities or earthy matter through washing. Shortly after N. Q. Speer originated the method of conveying sand through a series of screens, by which the cost of washing was cheapened. Formerly it took two men a day to wash five tons of sand, by Mr. Speer's method the same number of men can grind and wash 100 tons.

By this the finest deposits of sandstone, yielding the better quality of silica, became utilized, and a mountain composed almost entirely of fine silica, from 100 to 300 feet high and a mile in length, near Huntington, became available. It is the most extensive deposit of flint sand yet discovered, and contains enough to supply the glass factories of the world for unlimited time. It is controlled by the Speer White Sand Co., of Pittsburgh, and the glass manufacturers of that city have at their doors almost enormous supplies of this basis of their glass and of the best quality. Pittsburgh seems to be unexceptionably located in respect to all things to enable it to hold not only the leadership in the making of glass, but also in all her other staples. In the earlier paragraphs of the history of glass making in Allegheny county mention is made of the difficulties experienced by O'Hara in the making of pots for his furnace. This was an accompaniment of all the earlier glass works, but was gradually overcome as the factories increased. When, however, the industry grew to greater proportions, the demand for pots originated a new branch of business connected with glass manufacturing, and the making of pots for glass furnaces becoming a distinct business. Pots are the foundations of glass making, as in them the materials are fused, and were made for many years in the respective factories.

The process of pot making is a slow one, and the average life of a pot is about four months; this required the factories to carry a large stock on hand to be at all times prepared with new pots, which good glass required. They are made in batches of from eight to ten, from clay, that of Missouri having taken the place of late years of imported clays. In the making of them they are built up only about eight inches at a time, by hand, and then stand two or three days to stiffen, when a new layer is added, the clay having to stand about two months to mellow before using. It takes about three weeks to build a pot, which then has to stand from three to four months to temper before it can be used, and the whole time before the pot is ready to use, from the time of its commencement, is about five months. This was the difficulty that O'Hara encountered. His clays were all brought over the mountains, and, as mentioned, had often to be used before dried and tempered sufficiently, and thus frequently melted at the first heating. To keep a large factory properly supplied with pots necessitated not only keeping a stock of clays on hand, but a quantity of pots, so that the supply should be ample. As the number of factories increased the competition began to cheapen the price of glass. Economies began to be studied by the manufacturers, and among them the lessening of the cost of new pots. This led, as before observed, to the establishment of Glass Pot Factories, by which the manufacturers of glass were enabled, without the expense of carrying heavy stocks of clays and pots, to keep themselves at all times supplied quickly. It will be seen that "pot factories" were not only necessary to the progress of glass making at Pittsburgh, but became more of a requisite as the industry increased.

The business was established in 1860 in an old stable on the South Side by Thomas Coffin, a native of New Hampshire, who came to Pittsburgh in 1856 to

work in the O'Hara Glass Co.'s factory. Mr. Coffin afterwards removed his factory to South Tenth street, requiring greater facilities, and afterwards established a branch at St. Louis, in order to work a clay mine at Missouri. Pot making has increased with the growth of glass making, until there is now over 4,000 pots a year made in Allegheny county, of a value of about \$200,000, and this branch of the glass making employs about 235 men, to whom wages to the amount of \$90,000 are paid, and the product of their labor is shipped to all points of the United States and Canada.

The manufacture of the silicate of soda also is among the advances in glass and glass material, in Allegheny county. This is a vitreous substance being really glass but held in solution, only not taken from pots, and made into vases and window panes. It has been made for several years in Europe and the east, but its manufacture was only begun at Pittsburgh by C. C. Beggs & Co. in 1887. The purposes to which it may be applied are wide. Among the purposes to which it may be applied is the welding of steel, by surgeons for the setting of limbs, for the coating of barrels and walls, and for insulation purposes, and promises to become an important factor in the use of electricity. Although but a young offshoot of glass making in Allegheny county, it is proper that it should be mentioned as likely to add to the future reputation of all that relates to the county's prominence in glass or its components..

In connection with the pioneer character of Allegheny county, noted in other branches of the business, there is one which has grown out of the glass making, that should be mentioned. In 1884, H. L. Dixon & Co. established works for the construction of glass works in all their details and also other glass construction work. A similar departure in the iron business has previously been noted, and it is a notable feature in the progress of the county, that in two of its leading industries, that not only for manufactures pertaining to them, the county should be famous but is laying a foundation for future fame in a reputation for furnishing complete plants for the production of the staples for which it is renowned. In 1888 the firm of H. L. Dixon & Co. became Dixon, Wood & Co., they furnish with the exception of the wall a glass house complete to order, furnaces, lehrs, lehr pans, pot arches, glorie holes and the iron work and put them in position for work. This is done no where else in the United States.

There is a historical value attached to the origination of any industry and a proper local pride in its birth place, and this new pioneer feature of Allegheny county is mentioned, because it will in future histories of the glass manufactories in the United States have a historic interest.

The making of stained glass is among the manufactures of Pittsburgh, and was established in 1852 by Wm. Nelson, at the corner of Water and Ferry streets. There are three establishments producing this decorative glass, employ about 60 hands and produce from \$150,000 to \$200,000 of work annually. This branch of the glass industry of Allegheny county has made great advances in its artistic development since it was first established nearly forty years ago, and Pittsburgh has

to-day the largest *atelier* west of Philadelphia. The stained glass windows of the cathedrals of Europe, the work of the old masters three or four centuries ago, are renowned as art treasures. It is among the possibilities that Allegheny county and Pittsburgh will be famous for their art windows.

The manufacture of plate glass was also established in Allegheny county in 1883, by the Pittsburgh Plate Glass Co., at Creighton station on the West Penn R. R., near Tarentum. These works employ from 700 to 800 hands, and manufacture plate glass of as large sizes as 15 by 12 feet, and of an average thickness of three eighths of an inch. The product of these works is about 40,000 feet a week, with a capacity for much more. The result of glass making at Pittsburgh has been again to confer a general benefit on the public. Before plate glass was made in the United States the price of imported plate glass was as high as \$2.50 a square foot. It has now declined to \$.70. The first attempt to make plate glass was at Lenox, Mass., but was not a success. It was afterwards made at New Albany, Mo. *Inde* by J. B. Ford and W. C. Depaw. In 1883, J. B. Ford, induced by the advantages for glass making at Pittsburgh and the desirability of gas fuel, established in Allegheny county, as before mentioned, the works indicated.

The making of glass moulds is also an adjunct, and a very important one, to the manufacture of glass. This branch of manufacture is not, as its title might suggest to the uninformed, the production of moulds of glass, but the making of iron and steel moulds in which the forms of the glass table ware of Pittsburgh is formed. The simplicity and ease with which by these moulds the beautiful forms of the goblets, pitchers, vases, fruit dishes and all the numerous articles of glass-ware are made requires to be seen to be understood. In these moulds the glass in its fluid state is pressed into the required form with the greatest facility, but it is to the skill of the mould maker that the perfect result in the pressed ware is due. There are four glass mould making establishments in Pittsburgh. The largest of these was established in 1857, and it is another exemplification of the progress of Pittsburgh factories. When first started twenty-nine years ago the space occupied was 12x8 feet, and the works have now an area of 72x80 feet, two stories in height. As the moulds in their finished state are of comparatively small bulk the space just mentioned is indicative of a large increase of business from that which was turned out in the 12x8 shop of 1857. The presses and moulds from this establishment are in use in the glass works of Scotland, England, France, Belgium, Bohemia, Norway, Sweden, Austria, Germany, Denmark and even Japan, as well as throughout the United States and Canada. It is not a little singular to note in connection with this how little by little the products of Pittsburgh are finding their markets in foreign countries, a foreshadowing of a cosmopolitan trade in the future. The four glass mould factories employ about 70 hands, and the value of the moulds made about \$150,000 to \$175,000 a year.

From the making of the first window glass blown in Allegheny to the period when its business men began to ship complete glass houses and factories, the narrative of the glass industry of the county has been sketched. Though much remains

untold of its co-relative branches and connected industries, enough has been said to outline its history and inform the reader of its growth.

CHAPTER XIII.

Natural Gas.

A knowledge of the introduction and use of natural gas in Allegheny county's workshops and houses is widespread, and there are few sections of the United States and even Europe that the fact is not a familiar one. Its existence, its practical use and the advantage of it which it has given the manufacturers of Allegheny county are well understood, and require no argumentative description. As to what it is, how or when it was formed, and the possible continuance of the supply, theories on theories have been promulgated without any elucidating result. The simple fact remains that in this strange vapor of the earth Allegheny county seems to have the nearest to inexhaustable quantity provided it should not exhaust. That time alone will tell. It is sufficient that it has furnished the manufacturers of Allegheny county with a fuel which gives them numerous advantages, and its household comforts and pleasures that are to its people a daily theme, although its use is so general that it should be an old story.

While its practical use has thus been conferred upon the people of Allegheny county, the result will be to the world. So long as the manufacturers of the county have natural gas fuel they hold all others at disadvantage. It is a natural characteristic of the human nature to equalize conditions by artificial means if the natural appliances are wanting. As gas fuel has been so fully tested in Allegheny county as to demonstrate its advantages and superiority to all others manufacturers elsewhere must equalize its advantages. This can only be done by the use of artificial gases where the natural vapor cannot be had. In bringing about such a necessity the people of Allegheny county have conferred a benefit on all others. As long as natural gas, although so long known to exist, remained without practical application to the world's industries, so long would no effort have been made to obtain the advantages that gas fuel gives. Having been put to use and all its benefits demonstrated the manufacturing world must needs become homogenous in its use. In "Pittsburgh's Progress, Resources and Industries," it is said :

There is but one Pittsburgh. As yet the development of the world has disclosed no one locality where the same natural forces and advantages are grouped. Some of each other localities may possess; but, whatever the future may unfold, to-day there is not in the world a community with the same grouping of wealth-creating powers, natural and artificial; a city whose steady progress is so assured, if the same factors of wealth and manufacturing growth shall continue to be of force in the future as in the past.

It is claimed in "Pittsburgh As It Is," published in 1857, "That hereafter Pittsburgh will be the most progressive and accumulative city in the Union." This assertion was made under the statistics of her past progress as a manufacturing center through the force of her coal fuel, and the cheapness and facility with which, by her railway and water transportations, the material could reach the fuel and be re-distributed in its manufactured forms. Since that assertion was made the fuel force of Pittsburgh has received a reinforcement that is exciting the manufacturing world. Known by the popular term of "Natural Gas," this vapor has—in all things where fuel is a factor in the product of manufactured articles—supplanted coal and given Pittsburgh as great a "foreset" in manufacturing as in past years her coal.

Coal has been a wonderful power in the great manufacturing developments of the world. Results being greater where the coal fuel was cheapest and the most abundant. Great as has been the power of coal to give manufacturing advantages, and favored as was the locality where this mineral abundantly existed, in conjunction with other advantages, yet greater will be the power of natural gas. Pittsburgh has been the first to utilize and bind this new power to her car of progress.

It is a subject for comment that for the long period of years for which this gas has been known not only to exist in various localities of the earth, and in some of them issuing from natural pipeage in great volumes, that it was never utilized. It is likewise still more singular that in Western Pennsylvania, where, from nearly the years that Allegheny county has been organized and even in the suburbs of Pittsburgh, its existence has not only been a matter of common information, but its inflammable nature and heat producing qualities known, that no effort should have been made, considering the inventive and adaptive characteristics of the average American, to utilize it, when it was in such close proximity to such a growing manufacturing center. There was hardly a salt well bored in which gas did not show itself, and to the great annoyance of the borers for salt water, the gas often taking fire and doing serious damage.

On January 17th, 1823, John Klingsworth, Nicholas Long and Philip Klingsworth were boring a well at what is now the town of Grapeviile, when at the depth of about 300 feet the gas rushed up with great force, and, igniting from a fire in the cabin that had been built over the salt well to protect the workmen, burned them seriously and burned the cabin.

For many years previously bubbles had been arising in the swampy ground in the neighborhood, which the school boys were in the habit of igniting for amusement. This is now the famous Grapeville Gas District. At about the same time a similar experience was had by some persons boring for salt water in Washington county, through tapping a vein of gas. This was in the neighborhood of the famous McGuigan Well, which, after it was sunk, continued to pour forth its immense volumes of gas, and having been ignited, to burn with great fury and heat for a number of years before it was utilized, which was not till after the adoption of gas as a fuel at Pittsburgh.

An individual, impressed with the value of this gas as a fuel, some years previous obtained control of this well, and spent much time and money in endeavoring to obtain capital among the manufacturers of Pittsburgh to pipe it to their works, and was only politely laughed at as a visionary. A similar experience was had by Wm. Johnston, a practical oil producer and business man of this city, who secured a lease of the great Murraysville gas well, that for eight or ten years almost stunned the people of the locality with the roar of the escaping volumes of gas. Mr. Johnston sought to raise a capital of \$50,000 to pipe the gas to the mills of Pittsburgh, and after trying vainly for one year to accomplish that end, abandoned the enterprise, being, like the previous person mentioned, looked upon as a visionary. To repeat, it seems very singular, looking back on the past in the light of the present, that two persistent efforts to give Pittsburgh the great manufacturing advantages it now enjoys from the use of gas fuel, and with the knowledge fully possessed by intelligent people of its adaptability for fuel, and that gas could be conveyed in distances in pipes, that Pittsburgh should thus have closed its eyes to its benefits and the gates of its factories against its introduction. There were, however, finally two associations of Pittsburghers who, comprehending all its advantages for gas fuel, set to work and ventured money on introducing this fuel to the factories of Allegheny county. In 1874 H. Sellers McKee, Robert B. Brown, Geo. Trautman and Wm. H. Aldred and associates, applied for and obtained a charter for a company called the "Fuel Gas Company of Pittsburgh."

The object of these persons was not, however, to pipe the natural gas from wells, but to manufacture cheap gas from bituminous coal. The idea of gas fuel grew from this to a fixed fact, and the dawn of Pittsburgh's day of natural gas fuel was breaking. In 1875 the pioneers of the introduction of natural gas into the factories of Allegheny county came. In that year Graff, Bennett & Co., Spang, Chalfant & Co., J. J. Vandergrift, John Pitcairn, Jr., Henry Harley, W. K. Vandergrift and Charles W. Batchelor, organized under the title of "The Natural Gas Company, Limited," for the purpose of piping gas from the wells in Butler county. The enterprise was much ridiculed and failure predicted, notwithstanding the fact that for eight or ten years previous natural gas had been used in the "oil region" for fuel under boilers, several of the towns in that section had been lighted with it, and in some of them it had been used for household purposes.

The two firms which joined in this first natural gas company were to have their mills supplied from Butler county wells, 17 miles away. These were the Millvale and Etna mills, below Sharpsburg, on the Allegheny river. The enterprise was under Captain Batchelor's direction. The pressure of the first well was 130 pounds. The gas made its appearance in the Bennett furnace in 19 minutes from the time it was permitted to enter the six-inch pipe at the Butler county well. The record goes on to say that the gas had actually flowed of its own pressure the 17 miles, through a pipe which in places reached an elevation of 400 feet from the lowest level of the line, undulations regarded by many at that time as fatal obstacles to success.

Thus was inaugurated the first practical use of natural gas as fuel at Pittsburgh, and the honor thereof belongs to Chas. W. Batchelor and the persons associated with him. There was, however, no immediate further adoption of the benefit thus brought to the door of the great manufacturing city.

The characteristic caution and conservatism of the Pittsburgh manufacturers called for time to consider the subject, and some six or eight years elapsed before its use was fully inaugurated. To George Westinghouse, Jr., the credit should be given for this. In July, 1884, he organized the Philadelphia Company and had it ready for work in October of the same year. The rapidity with which the work was prosecuted in almost entirely a new field of labor is something wonderful to contemplate now that it is done. In less than one year's time the gas from the Murraysville wells was doing its work in the mills of Pittsburgh, and in the homes of the city, and in two years time it was in general use. It is difficult to comprehend, now that it is of such common use, the small faith there was ten or twelve years ago in its practical utility, and that, as mentioned in previous paragraphs, the controllers of gas wells of the section were practically begging capitalists and manufacturers to put money into their utilization. The bringing of the gas to the city and its efficient distribution in the short time occupied is in itself a subject of wonder. One may take a broad plain and through the gradual concentration of population, in the course of time lay the gas and water pipes gradually required. Even that requiring ability. But to lay in the short number of months taken miles of pipes from 10 to 36 inches in diameter from wells 15 to 20 miles away, and through the paved and built up streets of a great city, through net works of water and manufactured gas pipes, to convey as explosive and inflammable a substance as natural gas without any serious accident or the stoppage of a day in the work, is a great feat of engineering. Mr. Westinghouse's achievement is one at which the wonder grows as time elapses, and the full results are realized. The transformation in all things, whether in the factory or the household, was almost like a page out of the Arabian Nights, and to the people of Pittsburgh it is still a wonder, and almost unrealizable. It has placed the manufacturers of Allegheny county on an eminence that, where fuel is the factor, and the improved quality of the product the consequence of that factor, they can not be competed with. It has made the city one of the pleasantest cities for residence in the United States, reduced the work of the household and added to its cheerfulness, and beauty, in the absence of the drudgery, grime and debris of the coal fires it has banished.

So much has been written as to the locality of the gas district around and in Allegheny county that it is needless to repeat what is so generally understood. Equally so is it to discuss the probabilities of its exhaustion or its possible formation. Theories and theories have been given by those whose scientific attainments or information obtained from practical research entitle them to give opinions, and as yet it is all a theory. Although as to its duration, the fact existing that for many long years it has been in divers sections of the earth escaping in great volumes.

and the history of the great gas wells in Western Pennsylvania, tend to the opinion that if it should be exhausted it is an event far distant. Should it fail neither the people of Pittsburgh or of other localities where it has been utilized could or will go back to the crude fuel of coal, although in case of such an event coal will be a factor in the creation of the fuel. Coal is, after all, but tanked gas, to a certain degree, and while it is not desirable to make a gas works of a fire place, it will not be necessary in the future if the natural gas fails, since all that has been developed as to the economies and advantages of gas fuel have demonstrated that gas can be made anywhere and conveyed anywhere for consumption. Should natural gas fail manufactured gas will take its place, and Pittsburgh coal will be the factor as the best gas coal known.

While Mr. Westinghouse, whose financial interest in natural gas supplies is so large, has no falterings in his convictions that the supply of natural gas is in no danger of exhaustion, yet with the wisdom that has won him success in many enterprises that have linked his name and that of Pittsburgh so closely together, he has been experimenting on a new process of manufacturing fuel gas from coal, bituminous and anthracite. The process has been perfected, and the company believe that they have solved not only the problem of economized production of gas from coal, but every question connected with the distribution and utilization of gas under pressure. Should, therefore, the supply of natural gas exhaust Pittsburgh will have not only economized supplies of manufactured gas to supply its wants, but is likely to be, in addition to creating, by the utilization of natural gas, a progressive revolution in the manufacturing fuels of the world, and, through one of its citizens, the agent in extending the benefit to all. The thought cannot but recur here again that has at time before arisen in this resume of the history of Allegheny county, of its pivotal character, that around it revolves so many of the advancements made in the progress in practical results, not only of this nation, but at times of the world. Dismissing, therefore, all questions of the formation of natural gas, its possible continuance, as well as future comment on the history of its introduction, a few facts are desirable as to its use. According to J. P. Lesley, State Geologist of Pennsylvania, one pound of coal weighs 25 cubic feet of gas, and one pound of coal has a fuel value of $7\frac{1}{2}$ cubic feet of gas. S. A. Lord, chief chemist of the Edgar Thomson Steel Works, says 1,000 cubic feet of gas equals 62.97 of coke of 90 per cent. carbon, or 52.4 of bituminous coal, or 58.4 of anthracite. The gas is odorless, because free from sulphur, etc., which makes it superior fuel for manufacturing iron, steel and glass—three of Pittsburgh's great staples.

It makes steam more regular because of the continuous heat, there being no opening or shutting of the furnace doors, and no blank spaces between grate bars for the entrance of cold air currents, and it is estimated it will create twenty-five per cent. more steam in the consumption of a certain given quantity of gas as corresponding to an equal fuel quantity of coal. In the manufacture of iron there is a great saving in "burned iron," of which there is quite a percentage in the use

of coal. It increases the output, many mills increasing to the extent of 15 per cent. with the same amount of furnaces. There is a saving from 10 to 15 per cent. in wages in the reduction of the number of hands required for the handling of the coal fuel, from 15 to 20 per cent. in the cost of fuel, and nearly 15 per cent. in wear and tear of grate bars, fire brick, wear of carts, railroad sidings for delivery of coal, switching charges, artificial gas for illumination, and a score of other items each small but aggregating largely. The advantage in quantity of production and in the quality of glass is mentioned in the chapter on the glass trade, and the further fact can be stated, that in a glass factory where 2,000 tons of glass making material was used in a year, the saving of gas fuel against coal was \$6,000 annually. It should not be overlooked that Allegheny county has in the gas fuel, although it is found elsewhere, the same advantage it has enjoyed in the past in coal, the greatest supply. If the Pittsburgh capitalists and manufacturers were slow to take hold of the new industry they were enterprising enough when they became convinced of its value. Natural gas companies were rapidly formed. The Philadelphia Co., already mentioned, formed with a capital of \$5,000,000, afterwards increased to \$7,500,000. The Chartiers Valley Co., with \$4,000,000 of capital. The Pennsylvania Gas Co., with \$1,000,000 capital. The People's Natural Gas Co., with \$1,000,000 capital. The Manufacturers Natural Gas Co., with \$600,000. The Bridgewater Natural Gas Co., with \$1,200,000 capital. The Allegheny Heating Co., with \$500,000 capital. The Baden Gas Co., with \$500,000 capital. The Ohio Valley Gas Co., with \$100,000 capital. The Washington Natural Gas Co., with \$500,000 capital. The North Side Gas Co., with \$100,000, also The Acme, The Washington, The Penn Fuel Co., The Carpenters and The Bellevue, whose capitals are not given, being sixteen companies inside of two years, with a combined capital of over \$20,000,000, to supply gas to Allegheny county as the consuming point. In addition there were formed, with more or less Pittsburgh capital invested, eleven additional companies to supply points from 50 to 200 miles distant from Allegheny county, with a combined capital of \$9,000,000.

With the gas fuel within reach and known of, Pittsburgh was for forty or fifty years indifferent to its great manufacturing value. It was for ten or twelve years after a few nervy men had risked their money in the outcome of the enterprise incredulous and hesitating as to the probable results. But their faith in natural gas, its advantages and financial results, came in a flood that brought \$29,000,000 of capital into this industry. The entire statistics of the milage of pipes, number of wells and acreage of territory of these combined companies are not at hand, but from those that are some idea of the magnitude of the industry can be obtained. The Philadelphia Company has about 600 miles of pipe, not including the pipe connections into mills and houses. The gas flowing into its lines is estimated at 350,000,000 feet a day, and are now supplying 25,000 houses and 700 mills and factories, and employ from 300 to 400 men in the working of its lines, not including the small armies, amounting from 2,000 to 5,000 of men, laying pipes from fresh wells. It controls from 75,000 to 80,000 acres of gas territory, and supplies, beside

the cities of Allegheny and Pittsburgh, twenty-eight other towns on the route of the lines. The Chartiers has 95 miles of main lines, and controls 20,300 acres of gas territory, supplying 6,000 mills and factories and dwelling houses, and furnishes 90,000,000 cubic feet of gas a day. The Peoples Company supply 4,000 consumers, have 100 miles of main pipe, and furnish 20,000,000 cubic feet a day. The "Manufacturers" control 11,000 acres of gas and oil territories, and supply consumers along its 70 miles of line, with 25,000,000 cubic feet of gas per day. The "Bridge-water" controls 12,000 acres of gas territory, and have 150 miles of pipe, reaching nine villages and towns. The "Baden" has 5,000 acres of gas territory, 150 miles of gas pipe line, and supplies fourteen villages and towns. The statistics obtained are so incomplete that no full or approximate estimate could be given of the proportions to which the business of furnishing natural gas has grown. The three companies, whose statistics are the fullest, supply 42,000 consumers in mills, factories and houses with 460,000,000 cubic feet of gas daily. The six, whose length of line is given, have nearly 1,200 miles of pipe, not including the connections running from main pipes to consumers, laid to convey the gas to the cities and towns and villages they supply. And the three, whose data was obtained, furnish, besides the cities of Pittsburgh and Allegheny, over fifty additional towns and villages.

When to this is added the miles of pipe, possible consumers, cubic feet of gas supplied by the other twenty-three companies, as by an approximate probable estimate, the magnitude of the gas fuel business is astounding. It should be remembered that the great bulk of the business is that of Allegheny county capital, controlled and managed by the business men of Pittsburgh. The judgment that led to this investment was slow in forming, and the facts that gave the faith in the continued supplies of natural gas convincing enough to justify it. As an exhibit of something of the force of these facts, certain geological conclusions are briefly stated, quoted from *Pittsburgh Commerce and Industries*, and the *Natural Gas Interest*, by George B. Hill, 1887, published by him and presented to the Bankers' Association, at their convention in Pittsburgh in that year. Says the publication:

"In 1880 Prof. Caril after mentioning the enormous depth (three to five miles) of the stratified rocks in western Pennsylvania said, 'the Silurian and Devonian rocks lie at a depth which we may reasonably suppose would subject them to a degree of heat competent to all requirements of spontaneous distillation of gas.' * * * The great bituminous coal basin of Western Pennsylvania and Ohio, under which the Silurian rocks plunge from the east and northeast to appear again as they come up and fold over the Cincinnati anticlinal on the west, seems to be, so to speak, one vast caldron filled with deeply buried carbonaceous matter, subject to great heat, and, therefore, constantly generating gas."

"This was gospel in 1880, and the writer believes there has been no reason to doubt Prof. Caril's conclusions since that time. Why should all the gasses from the fossiliferous series of rocks, extending to the depth of three to five miles, have concentrated itself into one or two of the strata near the top? If the gas is no longer generating but gradually wasting from the topmost layers, the greatest pressure would be near the top; but as a matter of fact the deeper our wells go the stronger the pressure and the more durable the individual wells.

"One thing appears to be clearly established, and that is, the gas wells bored into the great cyncline west of the Allegheny mountains, and parallel with that range, promise to last longer where the cyncline is deepest, and Pittsburgh is over the deepest part. It is not difficult to conceive that the fossils of animal and vegetable life contained in a series of strata three miles thick would certainly yield a heat-producing capacity in gas equalling one layer of coal five feet thick. Imagine three miles of such rocks squeezed together for its gas product, the result should equal the calorific value of such a single coal vein. Yet the Pittsburgh vein of coal is only that thick, but still it is properly referred to as inexhaustable."

"But as in the case of coal, so in the case of natural gas. We may in the future have to go deeper to obtain it, but it may be relied upon that improved methods of working for it, the result of gradually acquired experience, will ever be rewarded with success. At present we are simply skimming the surface for 'gas nuggets' near Pittsburgh, and so far the Murrayville and Canonsburg 'placers,' so to speak, are so rich that we have no object in exploring much beyond or deeper down."

For the information of the casual reader who may desire it, a few other items touching the procuring of natural gas is given.

The oil sands are chiefly the tankage in which so far this gas is obtained, similar in character to those at Tarentum and Leechburg. The depth varies from 1,200 feet at Leechburg, Armstrong county, to about 1,700 feet at Murraysville, Westmoreland county; 2,100 feet at the McGuigan well, Washington county and about the same depth at the Jones & Laughlin well in the city of Pittsburgh. In the Washington county field at Canonsburg there seems to be three distinct gas sands; one at 1,200 feet, the conglomerate strata proper; below that the 1,750 feet strata of the Murraysville district; and below that the 2,100 feet strata of the McGuigan well. In the Canonsburg district there seems to be no water in the 1,200 foot conglomerate, as there is in other sections. At Baden, Beaver county, the gas is struck in the conglomerate at 1,500 to 1,700 feet; and there is another sand, at about 260 feet below this, from which the wells at Economy, in the same county, obtain their flow.

The cost of drilling a well varies from \$3,000 to \$6,000, according to the depth. From forty to sixty days are required to drill a well. The largest well ever struck so far, so far as known, flowed 15,000,000 cubic feet a day. The largest found at Findlay, O., was said to have produced at first 14,000,000 feet, but only yielded, 4,000,000 according to expert testimony. A thousand cubic feet of natural gas is claimed to be worth as much for ordinary mill purposes as 1,500 feet of the best coal gas. As to the exhaustion the quotation given from Geo. B. Hill's *brochure* is quite satisfactory, that if it ever does occur it will be in the far distant years.

CHAPTER XIV.

Oil Trade in Allegheny County.

The oil trade of Pittsburgh is a story that for nearly thirty years has been repeated often in all shapes and by all classes of writers. Its minor incidents are many, but chiefly of a personal nature interesting only to a limited circle, relating as they do to ebbs and flows of fortune, and not pertinent to any general narrative. Beyond some additional statistics there is little or nothing to add to the history of the petroleum industry.

The primaries of this trade are as largely controlled in Pittsburgh as in former years, in most respects the city is still the head of the market. The direct refining business of Pittsburgh has decreased in the number of refineries, but that is attributable to evolutions of trade that occur in all great commercial interests. With the increasing exportation of petroleums the question of transportation and economies therein became factors in the trade, with the result of the creation of pipe lines by which the oil was piped to the seaboard. Under the same factors the number of refineries at Pittsburgh have decreased, and also from that inherent characteristic of all business that leads to concentration from economical reasons as capital therein accumulates. This has, to a considerable extent, been the case in the refining of petroleum at Pittsburgh, and is a perfectly natural business cause—one that will probably continue to produce concentrative results until such times arrive when, to use an old homely adage, "big fishes cease to swallow little ones." Under this and the natural business evolutions before cited, there has been a decrease in some of the divisions of the oil trade of Pittsburgh in the past years and in others progress. Yet, as a whole, it is probable that Pittsburgh is as great an oil centre as at any previous period of the petroleum production and the sober undercurrent of the oil trade is as well systematized and sedate as any other standard business of the country. Under the opening of new territory populations rapidly concentrate thereon, and dissipate as quickly as the wells exhaust, creating a constant ebb and flow of business interests at such points, but all reflective of and to some chief center. Such has been the position of Pittsburgh in reference to the oil trade for the past quarter of a century, and such is her status to-day, which the new petroleum producing fields in Allegheny, Washington, Butler and Greene counties of the present date go far to strengthen. In all the various "hygerias" from one producing field to another, Pittsburgh has still been the great supply point of capital and machinery for developments, and the dominator of the market price, and thus virtually the central oil market, and to-day the largest factor in its condition is at Pittsburgh.

After a quarter of a century of oil trade, with its depressions and "red letter days," it seems as if the new fields now beginning to yield might renew the excitements of the earlier petroleum fever. That they would is quite probable, but the experience of twenty-five years has given more system to the boring for petroleum, and there is method now-a-days in the madness of the oil fever.

The earlier years of the petroleum mining—if that term may be used for oil—was one of a speculative character, touching almost the verge of gambling. The natural geological peculiarities of the oil region, the lay of the oil bearing sand stones, and all the “metes and bounds” that in any legitimate business give standard character to its prosecution, were wanting. To-day the boring for oil and the constitution of the production of crude and refined oil is on the basis of a legitimate business. The experience of the past has formulated the depths of the earth through which the well is sunk, and given intelligence to each strata of sand through which the drill passes, so that he who bores may read. Exploration and test have mapped the underground currents of oil almost as accurately as the surveyor the water courses on the surface; and the purchase of territory or the sinking of a well is to-day undertaken with a reasonable degree of assurance, almost approaching that with which the mining for other minerals is prosecuted.

The production of petroleum in Western Pennsylvania is generally accepted as having resulted in adding greatly to the wealth of the country, but this is rather a vague “of course belief,” without knowledge of the statistics thereof, except by those immediately in the trade. A few figures, exhibiting the business, will not be amiss.

From 1859 until 1884, a quarter of a century, there were 38,182 wells drilled in the oil regions of Western Pennsylvania. The total cost of these wells is stated at \$170,945,100. The total production during that period of twenty-five years is given at 10,232,204,072 gallons, or 243,647,716 barrels, or an average production of 46,515 gallons, or over 1,100 barrels, *every hour for all the days and nights of a quarter of a century.* Representing in its market value, as computed at the average price during those years, of \$431,220,220, or \$20,000 of value for every hour of the night or day of the entire quarter of a century, in which Pittsburgh has been looked to and spoken of as the center of the oil trade. The same ratio of statistics are continued to the present date.

It seems singular that Pittsburgh should have been within hand's reach, as may be said, of such wealth, and aware of its existence for years, and yet failed to benefit by a development of it at an earlier period. And the same singularity is noted in the development of the gas-fuel industries. At some future day this fact will be classed among the singularities of commerce, as well as the fact that while the same substance had been freely obtained in other quarters of the globe for many years, it remained for the development of the oil regions of Pennsylvania to force the introduction of petroleum as an illuminator upon the greater proportion of the civilized world.

The following from “Pittsburgh's Industries, Resources and Progress,” as giving the mineral facts of its early history are here quoted in preference to re-writing what would be but a repetition of the same facts, and while generally known, are necessarily repeated as are other facts in all histories:

“From very early days this *then called singular substance* was known by the merchants of Pittsburgh and the people of Venango and Clarion counties to exist

in those localities, but was considered as one of the curiosities of nature rather than an available article for the purposes of commerce. Found oozing from the ground in very small quantities, or lying on the surface of water standing in small pits, evidently made by the Indians with reference to its collection; a few gallons was occasionally gathered by a process of skimming or absorption with blankets and brought to Pittsburgh by the timber men on their trips down the Allegheny with their rafts of timber. It had acquired an half-accepted, half-fabled reputation as a remedy for bruises, burns, sprains, and rheumatism, and was occasionally burnt in its crude state as lamp oil in the vicinity of the pits from whence it was gathered. The dense black smoke produced from the burning of petroleum in its natural form, however, presented an obstacle to its use as an illuminator, save where necessity required an occasional resort to it. The principal uses to which the small quantities which were then gathered were put, was a species of patent medicine in the same rank as 'Seneca' and 'British Oil,' as a similar substance was called. In 1858, Samuel M. Kier, deceased, began experimenting in the refining of this oil. Mr. Kier was at that time, and previously, engaged in the making of salt on the Allegheny river.

"More or less of this oil was always found in the salt wells, and in those early days was considered a detriment to the wells, and the effort then was made to shut out the oil as much as it is now to case out the salt water. 'What fools these mortals be,' is the pithy sentence Shakespeare puts into the mouth of Puck. Yea, verily! Mr. Kier, in reflecting on and examining this oil, became impressed with the belief that it had great medical and healing properties. He accordingly experimented with it for some time and then opened an office in Pittsburgh, and commenced bottling and introducing it throughout the country under the name of 'Kier's Petroleum and Rock Oil.' Many of our readers will remember the magnificently decorated wagons which, nearly thirty years ago, where to be seen in every city and town in the Union, with pictures of the good Samaritan administering aid and comfort to the sufferer. The oil thus sold was highly recommended by physicians and others, and met with an immense sale which continued for many years. The supply, however, after a while so much exceeded the demand, that Mr. Kier conceived the idea of utilizing petroleum for illuminating purposes, but owing to the odor and smoke arising from it this disposition was deemed impracticable by many scientific men. The first attempts of Mr. Kier at distillation were not crowned with that success that he had hoped for, but he persevered with his investigations, and making some change in the old style of camphene lamps, he made the important discovery that his distillate would burn under certain circumstances. From this rude beginning he went on making improvements in the quality of his distilled oil and adaptability of his lamp, by the introduction of the 'Virna' burner and the treatment of his distillate with acids, he had brought his experiments to a close and secured to the world one of the greatest and most important discoveries of modern times. Up to this time he had enjoyed a monopoly in the production of petroleum, but the magnificent results of his invention led to the discovery of other wells in various portions of the State and continent, and from that day to this petroleum has been one of the most important products of Western Pennsylvania. The original 'still,' about 6 feet by 3 feet in diameter, is retained in the family as a priceless relic.

"The first effort to obtain this oil in quantities by the sinking of a well has always been accorded to Col. Drake, who is said to have conceived the idea in 1859.

"Some six years prior to that Mr. George H. Bissell, when on a visit to Dartmouth College, was shown a sample of this so-called Seneca oil, taken from the surface of a spring near Titusville. Desirous of further information, Mr. Bissell wrote to Dr. F. B. Brewer, of the firm of Brewer, Watson & Co., of Pittsburgh, in regard to this singular product of nature. From the answers received Mr. Bissell was induced, in company with Mr. Eveleth, to visit Titusville in 1854. The terri-

tory on which the springs in which the oil was found was then owned by Brewer Watson & Co., although having some years previously been purchased by a Mr. Chase for a cow. Messrs. Bissell and Eveleth leased the property for ninety-nine years, paying the sum of \$5,000. Following somewhat the old Indian method, before mentioned, of "pit gathering," they began the obtaining of the oil by digging trenches, which were allowed to fill with water, and it was then pumped into vats and the oil drawn off as it rose to the surface. It is a matter of curious mental speculation to imagine what would have been the thoughts of those two gentlemen could they "'t the visions o' the night" had a view of the 4,000 barrels a day well struck in September of 1861 on the Tarr farm. They had, however a vision of there being "money in it," and impressed others also, for in 1855 Messrs. Bissell & Eveleth sold one-third of their property to some New Haven capitalists, and a company was formed, called the "Pennsylvania Rock Oil Company," of which Prof. B. Silliman, Jr., was president. It was this company that in 1858 employed Col. Drake of New Haven to sink an artesian well. Work on this well was begun in 1859, and at the depth of 69½ feet the first vein of oil was struck on the 28th of August, 1859. It would seem, therefore, that to George H. Bissell and conjointly Dr. Brewer, of Pittsburgh, this city owes whatever of mercantile renown and wealth has been derived from the petroleum trade; and to Mr. Kier, before mentioned, another Pittsburgher, the immense business in illuminating oils prepared from crude petroleum. This first well flowed ten barrels a day for a time, and the oil sold at fifty cents a gallon. The production of the well, by the use of a pump, was, in September, increased to forty barrels a day."

The idea of sinking a well for the procuring of oil in the Venango district was one of those pioneer thoughts that always mark an advance in the circles of commerce or manufacture. And again it is to be noted, as in other cases, Allegheny county was, though slow to begin the work, the pioneer. In this case, as in most others of a similar nature, the effort was met with ridicule, and the originators of the idea were obliged to prosecute their scheme through much discouragement. In proving that, by sinking a well petroleum could be obtained in quantities, made an excitement rarely witnessed in the commercial history of any country. The story that oil was being pumped from the earth as freely as water was at first scouted as a farce, then accepted as a phenomena, and then believed to be a defined fact pertaining to certain tracts. Men were prepared to believe, from California experience, that it was possible gold might be found in such copious deposits that it could be gathered by the shovelful, but that real oil, excellent for burning, for lubricating and all the uses of oil, was being pumped from out the earth in the interior of Pennsylvania was beyond belief. When, after a time, it was announced that oil was not only pumped up, but that it gushed out of its own power, not by the gallon, but at the rate of hundreds of barrels a day, the excitement to embark in the business and to buy oil territory became almost a mania.

From that day, now over a quarter of a century, the buying of oil territory and the drilling of wells has been a speculative as well as a legitimate business, and Pittsburgh has been the center of the producing interests. Whatever have been the losses in the ebbs of speculation to individuals, Pittsburgh has been a great gainer in the establishment of her oil trade. The world, as well, has been greatly benefited, and perhaps to an extent unequalled by few other articles.

In 1860 petroleum was unknown in France as an illuminator. In 1861 forty casks were sent there as a curiosity. In 1862 there were shipped 3,934 casks as a commercial venture. In 1863 the demand for exportation was 29,197 casks, and in 1864 there were sent out to Marseilles 66,000 casks, and in 1875 the exportations to foreign markets were 232,839,457 gallons, or equal to 5,543,796 barrels, and in 1883 the export was 673,906,817 gallons, or equal to 16,045,817 barrels of crude oil. In addition to this, there was a large quantity of the by-products also exported, and the value of the export for 1883 was about \$69,650,769.

In 1876, the following, in relation to the production and location of petroleum, was said in "Pittsburgh and Allegheny in the Centennial Year":

"While the crude and refined petroleum now bought and sold in the markets of and exported from the United States is chiefly the produce of some three of the counties of Western Pennsylvania, yet the petroleum indications undoubtedly extend in an oblique belt or zone around the earth, and its course is distinctly marked by the districts where it is already obtained for market, and by the points at which it crops out, so to speak, in the shape of oil and burning springs. Beginning with the Canadian district and passing south-westwardly into the oil district of Pennsylvania, from thence to the Kanawha, then through Kentucky, finding the indications at various points, the belt passes into Arkansas, from thence to Utah, thence to California. Crossing the ocean it is found in Hindostan, from thence, changing the direction to a north-westwardly course, the belt passes to the burning springs of Persia and the "Naphtha" of the neighborhood of the Caspian Sea. Still pursuing a north-westwardly direction to the petroleum wells of Wallachia, and finding traces through Germany, the British Isles are reached. Although no petroleum has yet been found in them, the coal and peat districts furnish, on distillation, coal oil. From thence crossing the Atlantic the Canadian districts, from whence the departure was made, are reached, and the circle thus dotted out by actual production and unmistakable indications is completed. That this is one broad, permanent belt of petroleum remains for actual explorations of a long series of years to determine, but that at all the points indicated, greater or less quantities are to be obtained, is undoubtedly true. Such immense supplies of petroleum as this probable zone would seem to indicate might, almost, on first impression, lead to the conclusion that the obtaining of that article would soon be unprofitable; yet it should be recollected that the deposits of coal are no less, if not wider, in range. The progress of civilization as it occupies with fresh population and the manufacture and commerce thereof, the successive coal fields gives value to that mineral which, ponderous to transport, necessarily finds its consumption principally in the immediate districts of its production—while petroleum is transported thousands of miles to markets far removed from the locality of its production. Petroleum, therefore, beside being more than an equal necessity to civilization than coal, possesses greater advantages of being transportable to consuming markets, long distances removed from its place of production. There would seem to be no fear so long as petroleum continues the necessity it now is—taking the general facts in relation to the existence, value and production of that equal primary necessity, coal, as a guide of oversupply.

"It may be safely assumed that until it is superseded in all its chief uses by some other article as abundantly found and as cheaply produced, the obtaining of petroleum will always be as profitable where judiciously prosecuted as the mining for any other mineral substance; and holders of tracts of good petroleum producing territory will be as wealthy in proportion as the possessor of coal, iron, or other producing mineral lands."

As an exhibit of the progress made in the oil business by Pittsburgh for the period of not quite one decade from Mr. Kier's success in the production of an illuminating oil, the following is quoted from "*Pittsburgh and Allegheny in the Centennial Year:*"

"As before mentioned, the success that followed the efforts of Drake to procure oil by boring soon led to such quantities being offered in the market as at once brought it into use as an illuminator and a lubricator, and caused the erection of seven refineries at Pittsburgh in 1860.

"In the following year, 1861, there were *seventeen* refineries added to those previously in existence; and in 1862 *nine* more were built; and in 1863 *fifteen* more were constructed.

"From September, 1862, to September, 1863, the export of refined and crude petroleum and benzine from Pittsburgh to the East and West, *by railroad alone*, was 23,739,080 gallons, and yet an additional amount was sent West by steamboat, of which there is no record. During 1863 there was exported to foreign ports from the United States, 28,250,721 gallons. Of this amount there was shipped East from Pittsburgh 26,970,280 gallons, or nearly the entire foreign consumption. The value of the exportation in *New York*, in currency, was at an average of rates for that year, \$9,102,472, the average rates for that year in *New York* being 28 cents for crude and 44 $\frac{1}{2}$ cents for refined. The entire value of the oil trade of Pittsburgh for 1863 being nearly eleven million dollars.

"In 1864 five additional refineries were put in operation. During that year the entire exportation to foreign ports was 31,872,972 gallons. The shipment from Pittsburgh for that year was 25,549,385 gallons, or 35,500 barrels less than in 1863. During this year the average rates for crude in *New York*, in currency, was 41 $\frac{7}{8}$ cents, and for refined 64 $\frac{2}{3}$ in bond. The value at these prices then, in *New York*, of the oil exported East from the city of Pittsburgh, was, in 1864, equal to \$18,-610,411, and the entire trade of the city about fifteen millions.

"In 1865 the entire exportation to foreign ports from the United States was 28,072,018 gallons, while the amount shipped East of Pittsburgh was 25,549,385 gallons. This was worth in Pittsburgh, at the average market rates for that year, \$9,929,096, the average rate for crude being 25 $\frac{3}{4}$ cents, and for refined 52 1-10 cents. The entire trade of the city may be estimated at twelve millions.

"In 1866 the entire exportation to foreign ports was 67,142,296 gallons, while the shipments east from Pittsburgh was 32,879,062. This was worth in Pittsburgh \$7,421,085, the aggregate rates for crude being 14 $\frac{1}{4}$ cents, and for refined 31 $\frac{1}{2}$ cents, and the entire oil trade of the city for that year did not reach ten millions.

"For 1867 the exports to foreign ports were 62,600,685 gallons, and the shipments east from Pittsburgh 23,701,760 gallons. The average rate for crude was 10 $\frac{1}{4}$ cents, and for refined 44 $\frac{1}{2}$ cents. This would make the value of the oil shipped from Pittsburgh to the east \$6,655,286; and taking for the home consumption and western exportation an average of previous years in their proportions to eastern shipments, the entire oil trade of the city for 1867 may be put at about eight millions of dollars.

"From these figures, most of which are from the actual statistics of exportation and recorded prices, it will be seen that from January, 1863, to January, 1867, a period of five years, the exportation of oil from the city of Pittsburgh brought to it a business and a circulation of money amounting to nearly forty-seven millions of dollars, while the whole trade in that period amounted to fifty-six millions, or an average of eleven millions yearly.

"During those five years the entire exportation to foreign ports from the United States has been 217,948,692 gallons, and the shipments east from Pittsburgh been 132,396,179 gallons, showing that *Pittsburgh supplied over sixty per cent. of the whole*

foreign exportation of petroleum up to 1867. At that time there were fifty-eight refineries in the city of Pittsburgh and suburbs; of these fifty-one were in operation and seven were idle. These refineries employed about 700 hands, whose yearly wages amounted to \$560,000. The refining capacity of these refineries was equal to 31,500 barrels a week. The capital invested in buildings, machinery, &c., was then estimated to be \$7,630,000, and in tanks, barges, &c., about \$5,432,000. Nearly the entire amount of these sums invested had been distributed among the other branches of manufacturing in Pittsburgh; having thus added to the business of the city in five years nearly thirteen millions of dollars. There was also expended in repairs annually a sum which, it is estimated, amounted to 10 per cent. upon the value of the investment in the refineries, barges, tanks, &c., or an annual expenditure of over one and a quarter millions per annum among the workshops of the city.

"It would seem, then, that petroleum had added to the aggregate business of Pittsburgh in those last five years over seventy-one million of dollars, besides distribution in the community for labor *directly connected with the refineries* a sum equal to nearly three millions of wages."

At that time pipe lines were only beginning to be thought of, but economies in the transportation to the seaboard for exportation was a subject of much discussion and also indications of those natural evolutions in trade mentioned in the opening paragraph of this chapter began to show. In the development of those two progressive factors in the petroleum industry changes began to take place in the handling of petroleum at Pittsburgh and the refineries to concentrate. In 1876 there were at Pittsburgh twenty-nine oil refineries, having 138 stills, with a weekly capacity of distillation of crude petroleum of 126,371 barrels, or a capacity of production of 95,000 barrels of refined oil weekly. This is a decrease from the number of refineries in 1866 of just fifty per cent.; but it is *an increase of two hundred per cent.* in refining capacity in ten years—there being 58 refineries, with a weekly capacity of 31,500 barrels, in 1866, as against 29 refineries, with a weekly capacity of 93,000 of refined oil, in 1876. Although the refineries of 1875-6 were not run to anything like their full capacity, yet the proportionate increase in capacity is maintained in actual results under the partial running of the works. In 1866 the exportation of refined oil from Pittsburgh by railroad, to the East alone, was 424,848 barrels, and in 1874 it was 1,247,641 barrels, being, in the actual amount of oil refined, an increase over the trade of 1866 of 849,696 barrels or quite two hundred per cent., in perfect unity with the increase of refining capacity, and demonstrating an absolute increase of that proportion in the oil trade in ten years, as shown by shipments to the East alone. To this is to be added those to the West and by river. In 1875 this increase fell off from inability of Pittsburgh refineries to ship profitably, owing to the schedule of railroad freights, by which Cleveland was enabled to enter the market more advantageously. The decrease caused by this freight discrimination was equal to 150,553 barrels; but even under this disadvantage the showing is still, in an exceptional year, a gain of one hundred and sixty per cent. in the volume of trade in ten years.

The building of the pipe lines to the sea board has wrought a change in the manner of the shipments of petroleum to the East, and it is only in refined oil

that the shipments by rail are made. In the place, however, of handling the barrels of crude petroleum oil brokers now handle pipe line certificates, representing specific numbers of barrels. Under this system of dealing in oil immense sales are daily made of crude petroleum, through which the monetary value of the oil trade of the city is greatly enhanced. It may be said, perhaps, that the same certificates for any given number of barrels is sold and re-sold, and there is no actual oil moved. That is nothing more than occurred daily in the oil excitement from '60 until the issuing of pipe line certificates ; the stocks of petroleum in the city were sold and re-sold and not a barrel moved, although ultimately shipped to the sea board or the refinery from the warehouses. The only difference now is, that instead of being in the city warehouses, or sold to arrive from the wells, it is in the tanks of the pipe line companies ; and, no matter however much it may in certificates change hands, does as before, ultimately pass to the sea board or the refinery. The sale, then, of a thousand barrels of oil on certificates is usually the same as a similar sale on call in a warehouse, and representing an actual transaction in the market, its monetary sum, or its representation of oil, is that much business transacted. It would appear from the report of the Petroleum Exchange for 1886, that the transactions for the year represented 797,827,000 barrels of oil, and a monetary value of transactions of \$690,067,760 at the average price of oil throughout the year. Of course a great part of this is speculative sales, but still it represents that value of actual business for which checks were given or received.

In the refining of oils, under the natural evolution of trade by which the monopolizing tendencies of capital are developed, there has been a concentration of the refining interests. Such changes are a natural result of the accumulations of capital and the necessity for its employment, and is not to be looked upon as other than a simple business result, by which the holders of large capital absorb, and those of less resources are absorbed. There are laws of nature whose action are inevitable, and there are laws of trade as well. While under such processes there may be infringements on individuals, the trade of the community is only concentrated or changes its character, not lessened.

There are now working at Pittsburgh 12 refineries, employing 980 hands, whose wages will amount to \$490,000. The value of the plants was not obtained, nor the statistics of the actual output. The capacity of these refineries is 32,958 barrels crude a day. The yield of refined oil is about 75 per cent. of the crude, which, if the refineries were all running to their capacity, is equal to about 6,500,000 barrels refined oil a year. Of these refineries four pay especial attention to the production of high grades illuminating oils, as mentioned under head of "Illuminating Oils."

As mentioned in the early paragraphs of this review of the oil trade of Pittsburgh, Mr. S. M. Kier is entitled to the credit of being the father of this branch of the oil trade. Various illuminating oils were produced by the refineries from 1863. The output of these oils at the present time is estimated to be of a value of \$1,000,000, no absolute statistics being attainable.

As to the total value of the oil trade "Pittsburgh's Progress, Industries and Resources" says:

"The summary of the oil trade is one that, while showing a decrease in the actual number of refineries, still shows in the money total a large increase in the aggregate of barrels of oil sold. That a large amount of that is from the sales on the Petroleum Exchange does not make against the totals of the trade. A thousand barrels of oil sold on 'change, even if it is resold within a few moments, is still an actual transaction; the only difference from the habit of ten years since is, that now it is the oil in the tanks of the United Pipe Lines, where the producer's oil is piped, that are sold, instead as was formerly in the tanks and barrels of the individual producers. That losses are made by those thus purchasing oil does not either make against the aggregate of the business nor decrease the dollar total of the oil trade. Each sale is a business transaction, and gains or losses therein are but us gains or losses in any other article in which men deal in expectation of profit. The dollar total of the oil trade of Pittsburgh, in the sales on 'change, the products of the refineries, the illuminating, lubricating, lard and other oils, may therefore be stated at \$700,000,000, that sum being, in some form or other, accounted for in bank checks, drafts, or other cash representation."

CHAPTER XV.

Copper, Lead, Brass and Tin.

Manufactures from all these four metals date back to nearly the year of the organization of the county. Some of them had very humble beginnings. In 1807 three copper and tin factories are mentioned in *Cramer's Almanack*, Gazzams, Harbesons, and Bantin & Miltenbergers, (Geo. Miltenberger.) In 1810 there were six copper and tin manufactories producing a value of \$30,000. In 1808 a brass foundry, carried on by Thos. Cooper, is mentioned, and also eleven "copper factories" in 1813. These latter, it is presumable in the absence of any fuller accounts, were simple shops for copper work, although in 1817 they are of record as producing work to the value of \$200,000. The changes and advent of new firms in

Copper Manufacturing,

through the early periods cannot be traced without occupying greater space than could be afforded in this volume, and would even then be incomplete. While many of the establishments did a considerable business, yet it was principally of a minor or jobbing character, producing work for local demands, and was of the same character as those now active in Pittsburgh and Allegheny cities, at McKeesport, Braddock, and Tarentum, and other suburban towns of the county. Manufacturing stills for distilleries, copper pipes for steamboats, kettles, and similar products.

It was in 1840-1 that Pittsburgh became, in copper, a pioneer city, as it had previously in many other businesses. At that time the copper deposits of Lake Superior were brought to the attention of the business men of the city. Under the facilities for travelling, transportation, and communication that then existed,

that region was more difficult of access and exploration than is now, or have been during the past twenty years; the mineral regions of the Rocky mountains, valuable as was the metal, great hesitation existed as to embarking in what was considered a visionary enterprise, and involving too much capital to be risked in such a venture. The men were, however, found who took the risk, and enabled Allegheny county to claim the honor of developing, for the benefit of the whole country, the copper regions of Lake Superior. Curtis C. Hussey, Thos. M. Howe, whose names are associated with the bringing to a successful point the manufacture of crucible tool steel in the United States, and Charles Avery, also William Petitt, a Quaker, who was at one time engaged in the banking business in Pittsburgh, after a consideration of all the information laid before them entered upon the enterprise. In 1841-2, Mr. Howe made a journey to the Lake Superior region, and a personal examination of the afterward famous Cliff mine property. After his return he and Dr. Hussey, as he was generally called from having been in previous years a member of the medical profession, with Charles Avery, William Petitt, organized the Pittsburgh & Boston Mining Co., in 1845, and associating with them some Boston capitalists, proceeded to develop the Cliff mine, C. G. Hussey being the president of the company, and Thos. M. Howe its secretary and treasurer. The effect of this practical manifestation of confidence in the outcome of the copper region soon had its effect on the capitalists of Pittsburgh, and a number of companies were soon after formed. The Adventure Mining Company was organized in 1846, of which C. G. Hussey was president, and James M. Cooper secretary and treasurer. The Ridge Mining Co., in 1852, of which William Bagaley was president, and Joshua Hanna, secretary and treasurer. The North American Mining Co., in 1850, of which Thos. Bakewell was president, and Waterman Palmer, who was in the wholesale dry goods business in Pittsburgh about 1837, was secretary and treasurer. In 1854 the Central Mining Co., (C. G. Hussey, president, and Waterman Palmer, secretary and treasurer.) The Aztec Mining Co., in 1850 or '51, (C. G. Hussey, president, and N. Veeder, secretary and treasurer.) Also the National Copper Mine Co. Several smaller companies were also formed and a large amount of Pittsburgh capital was embarked in those enterprises. From the mention of the names of the chief officers noted of the principal copper mining companies, it appears that Dr. Hussey was the leading investor.

The financial history of these early copper mines it is not necessary to trace; they were immensely profitable, the Pittsburgh & Boston Mining Company alone having in the course of ten years from its organization sold copper from the Cliff Mine to the amount of \$2,120,101, the expenditures for the same period being \$1,405,719.58, and it has continued to be quite as remunerative. Mr. Hussey's interest in the Lake Superior mines led him, in 1849, in association with Thos. M. Howe, to build a copper rolling mill and smelting works at Pittsburgh, on the east bank of the Monongahela river, at what is now in the Twenty-third ward of the city, and embark in the business of copper smelting and rolling, under the firm style of C. G. Hussey & Co., in which firm style it is still operated, Mr. Hus-

sey being still living, although Mr. Howe died on July 20, 1877. Mr. Howe, whose business career has left its impress on many of Allegheny county's business enterprises, was born at Williamstown, Vermont, in 1808, and in 1817 went to Trumbull county, Ohio, with his father and family. In 1828 he came to Pittsburgh, and became a clerk in the wholesale dry goods house of Mason & McDonough, at the corner of Wood street and Fifth avenue. About 1830 he became a partner in the hardware house of Leavit & Co. In 1839 he was chosen cashier of the Exchange Bank, and in 1841 elected president of that bank. In 1850 he was elected to Congress from Allegheny county. In 1860 he was, at the urgent solicitation of the business men of Allegheny county, induced, against his own desires, to become a candidate for Governor of Pennsylvania, but was not nominated. This digression is made to record briefly the more salient facts in the life of a man remarkable for his business ability, integrity and pure personal life, who is one of the historic business men of Allegheny county, and was the promotor and active agent in the establishment of many of its important interests.

In 1859 the second copper rolling mill was built at Pittsburgh by Park, McCurdy & Co. (David Park, James Park and W. McCurdy). This mill subsequently passed into the ownership of Park Bros. & Co., composed of substantially the same parties, Mr. McCurdy having retired, and is now carried on by Park Bros. & Co., Limited. The mill was originally built on Second avenue, about Soho street, and was known as the Lake Superior Copper Works, but subsequently removed to Thirtieth and Smallman streets. These two copper mills employ about 100 hands, and the value of their manufactured product is from \$500,000 to \$650,000 a year.

White Lead

is one of the manufacturing industries of Allegheny county that claims the aristocracy of age, and has its origination subsequent to the establishment of the first glass house, but prior to the first rolling mill. As early as 1810 there were three "Red Lead" factories in Pittsburgh, producing that article to the value of \$13,000, according to a local census of that date. In 1813 there was one white lead factory (Beelin's); and in a report to the Councils in 1817 one white lead factory is reported as employing six hands and producing \$40,000 worth of leads. In 1837 there were eight lead factories, whose product was 74,496 kegs of lead, valued at \$206,000. These were Avery & Ogden (Chas. Avery, Geo. Ogden), H. Brunot, B. McClean & Co., Maderia & Ashton (Peter Maderia), J. Hannen, Daniel King, Porter & Breckenridge (Judge Porter), Gregg & Wagner.

In 1843 T. H. Nevin & Co. established a white lead works, which subsequently passed into the possession of Theodore H. Nevin, now dead, and as the time of his death president of the First National Bank of Allegheny City, which are now carried on by T. H. Nevin & Co. In 1844 B. A. Fahnestock & Co. established a white lead works, to which C. F. Wells & Co., now Pennsylvanio White Lead Co., is the successor. In 1832 James Schoonmaker also built and operated white lead works, which subsequently passed into the ownership of W. A. Stockton & Co.,

and is now carried on by M. B. Suydam & Co. In 1866 a new works were put in operation by Davis, Chambers & Co., and in 1867 Beymer, Bauman & Co. (Simon Beymer, R. Bauman) also erected works, which are still carried on under the same firm style. In 1870 Armstrong & McKelvy (Thos. M. Armstrong, John H. McKelvy) embarked in the business. In 1857 there were but three firms manufacturing white and red leads, but although there is a falling off of five factories in the number working, the three factories of 1857 produced 2,754 tons, of a value of \$443,000, where the eight factories of 1837 produced but 902 tons, being an increase of over 200 per cent. In 1875 there were six firms engaged in the manufacture of white and red leads, using 5,000 tons of pig lead a year, occupying an area with their factories of three acres, and employing 175 hands. The capital in machinery, buildings and ground was \$450,000, or more than the value of the product of 1857, while the output has increased about 90 per cent.

In the past decade this industry has, as well as others, become sub-divided and taken some new departures. Among those is a branch technically known as "PAINT AND COLOR" goods, also the manufacturing of "DRY COLORS." As in other things previously mentioned, Pittsburgh has been the pioneer in the introduction by white lead manufacturers of that city of mixed or prepared paints. T. H. Nevin & Co. in 1875 making this new departure in the white lead business by the introduction of what is known as the "Pioneer Prepared Paints," and were soon after followed by Armstrong & McKelvy in the same line of paint goods. Ten years ago colors were principally made in New York, but few being made in Pittsburgh, but now the city is a leading market for these goods, and furnishes her fair proportion of the trade of the country.

There are also six firms, those mentioned above as established from 1844 to 1870, producing white lead by corroding pig lead, and preparing it in oil for sale.

These six establishments corrode about 12,000 tons of lead a year and use about 300,000 gallons linseed oil and about 370,000 pounds acetic acid, and the product is about 1,050,000 kegs of twenty-five pounds each of white lead. In addition to the above product of white lead they manufacture oxides of lead, viz., red lead, litharge, and orange mineral, 2,000 tons. These factories occupy a space of quite ten acres, and the value of the plants, buildings, ground and machinery is stated as in the neighborhood of \$1,000,000 in round numbers. They employ 360 hands, whose wages annually are nearly \$200,000. Although the product of the white lead is given in a comparison of 25-pound kegs it is not all so packed, but kegged in 25, 50, 80 and 100-pound kegs and some larger packages, so that the number of packages used is less than the amount of 25-pound kegs of product given, and cannot be given in number. The value of the product is in round numbers \$2,000,000.

For over three-quarters of a century the corroding of lead and the manufacture of white lead has been among the "arts" of Pittsburgh workers, and is, as well as the skill so peculiarly native here in the working of iron and glass, one of the heirlooms descended from father to son in the lead factories of the city. The

white lead of the factories of Pittsburgh are a standard of quality in the market, and deservedly so.

A further manipulation of the pig lead after its corroding and manufacture into white lead is in the preparation of prepared paints and mixed colors.

A decade ago the preparing of paints and the mixing of colors was a province of the painters' skill. To-day there are in Pittsburgh four firms who, as a branch of their white lead business, carry on the preparing of paints and mixed colors and packing them in cans of various sizes for shipment to all sections of the country. These firms are:—Armstrong & McKelvy, T. H. Nevin & Co., M. B. Suydam & Co., W. W. Lawrence & Co. These four works prepare between 3,000,-000 and 4,000,000 pounds mixed paints annually, for which market is had in the West and South. They employ in addition to the hands embraced in the white lead works about seventy-five hands, whose wages in addition to those given there will be some \$75,000.

In the corroding of lead, the corroders have at the very door of their factories the PIG LEAD made in the county by the PENNSYLVANIA LEAD Co. Of this it is said in "Pittsburgh's Progress, Industries and Resources," (1886,) which is quoted in preference to writing what would be but the same account:

"To the enterprise of J. E. Schwartz the city is indebted for this important industry. The company above noted was established by Mr. Schwartz and associates in 1875 for the purpose of producing lead from the ores and base bullion brought to Pittsburgh from Colorado, Utah, Montana and Idaho. There are employed in the various processes of the works 120 men, whose wages will average \$100,000 a year. The freights on the ores and base bullions alone amount to over \$500,000 a year. The products of the works is given at from 3,000,000 to 4,000,000 ounces of silver a year, worth, at present prices of silver, from \$3,000,000 to \$4,000,000 a year; also 22,000 tons of pig lead annually, worth \$2,000,000. The product of lead is disposed of to manufacturers in New York, Philadelphia and Baltimore as well as Pittsburgh. The larger part of the silver product is exported to London, England. The works use about 9 acres of ground in their operation, and the plant is stated as of a value of \$150,000.

"These smelting works are another exhibition of the magnetism of Pittsburgh as a center toward which all metals seem to be attracted. Iron, copper, lead, silver, all seek her fuel. The works just noted, although yielding but few statistics, is productive, it will be seen, of great monetary results, the value of its realizations being from \$5,000,000 to \$6,000,000 annually."

A further manipulation of lead in Pittsburgh is in the manufacture of lead pipe and shot, which is prosecuted by three firms. In

The Manufacture of Tin,

the record runs back to the beginning of the century, when Jeffery Scaife, the grandfather of Oliver P., Chas. C. and Marion F. Scaife, and father of Wm. B. Scaife, established a shop for manufacturing tin in 1802, at Pittsburgh, and is probably the one mentioned in the view of the manufacturing trade of Pittsburgh in 1803, published by *Cramer's Almanack* in 1804, where it is stated that 320 boxes of tin, of a value of \$40 each, were used in manufacturing tinware in 1803. There are

number of shops manufacturing tinware in the county, but chiefly for retail trade. Some of them date well back in the century their origination, but to follow their genealogy would be uninteresting.

There are, however, two very large establishments manufacturing what is known as lacquer, or Japan goods, and pressed tin ware, the manufacture of which class of goods was commenced by John Dunlap in 1839, at which time the products were made entirely with hand tools. Now almost the entire work is done by machines. These establishments employ about 150 hands, and manufacture goods to the value of about \$400,000 a year. In the manufacture of

Brass

the products are varied, and there are now some fifteen establishments operating at Pittsburgh. As said in the early sentences of this chapter, there was a brass foundry in Pittsburgh as early as 1808. In the published records of the industries of Pittsburgh at various succeeding dates there is no especial mention of brass foundries, the accounts given being of the heavier manufactures of the city. In 1820 John Sheriff established a brass foundry, and in 1832 Andrew Fulton established his bell foundry, where was manufactured the greater portion of the bells of the steamboats of the West. In 1857 there were four brass foundries in Pittsburgh, and in 1876 ten in the city, being an increase of six—Mansfield & Fitzsimmons in 1861, John Fitzsimmons in about 1865, Cadman & Crawford in 1863, now A. W. Cadman & Co.; Atwood & McCaffrey in 1865, Wilson & Snyder, now Wilson, Snyder & Co., in 1875, who are also steam fitters, machinists and manufacturers of valves, as are also A. W. Cadman and the others. The great demand for "natural gas fittings" having largely increased the products of this branch of the brass business. In 1886 there were fifteen brass foundries in Pittsburgh, which gave employment to 250 hands, and produced brass castings to the value of \$600,000 to \$700,000. In the past two years has been established a works for the producing of "artistic brass goods," which makes a class of articles never before made in the United States, designed to meet requirements for a description of brass goods heretofore imported. It employs from 100 to 150 hands.

As has been said in a previous paragraph, the design of this volume is not to present a trade catalogue of the manufacturers of Allegheny county, but such a sketch of its hundred years as will give the reader a general knowledge of the more important public and political occurrences in that time and of its greater and more leading industries.

Therefore no attempt is made to present the hundreds, perhaps thousands, distinct articles that are the result of the skill of her workmen and the product of her workshops, leaving to the catalogue of the individual manufacturer such enumeration. It is enough to say that there is nothing in iron, from a steamboat or locomotive to a tack, that the ironworkers of Allegheny county do not or cannot make; nothing in steel, from a rifled cannon or armor for a ship to a watch spring, that her steelworkers cannot supply; nothing in glass, from window plates, 10 and 15 feet square, so clear that but for its sheen there would seem to be nothing but

air into which the gazer was looking, down to the smallest wine glass, so fragile that it would seem to scarce bear the weight of a butterfly without dissolving as an air blown bubble ; nothing from 1,500 tons of pig metal a day to a stove plate ; nothing from an iron bridge to span the Mississippi or the Orinoco, to the tiny rent that holds the smallest bolt ; nothing from a wagon tire to a blast furnace or rolling mill complete.

So varied are the products of the factories, that to-day the citizens of Pittsburgh, familiar as they should be with the products of the factories around them, and with the character of the factories themselves, often find themselves brought face to face with some before unknown product of the county's industries. Pittsburgh and Allegheny are in themselves wonderful cities in that respect, and have been pronounced the "curiosity shop of the country."

To-day Pittsburgh has the largest Bessemer plant in the United States, the largest glass chimney manufactory existing, and a table ware manufactory the greatest in the world. While other instances of the size of the manufactories of the city could be cited, these are simply mentioned as among the facts entitled to record. The tonnage of three of the largest of Pittsburgh's iron works exceeds the tonnage of the cotton crop of the south ; and the tonnage of the port, that of New York city. The heaviest iron roll ever made was lately cast at Pittsburgh, and in contrast with that may be mentioned that a Pittsburgh workman rolled iron so thin that it took 1500 leaves to make an inch in thickness.

As stated in a preceding paragraph, there is in these pages no attempt made to present in enumerated detail the thousand and one distinct products of Allegheny county's factories. The effort is only made in the historical account of its manufactures and business, to show its progress by the leading industries to indicate the ramifications thereof, through which it is, year after year, acquiring new attractions as a continental store house of manufacture, and a prominent commercial city as well.

CHAPTER XVI.

Mercantile Interests.

In a presentation of what may be entitled the mercantile interests of Allegheny county, it is neither necessary nor practical to present what is a similar feature in any city, town or village, saving in its magnitude in correspondence with its population, namely the retail trade. What may be termed its wholesale interests, except in a few more prominent retail branches, are what is of general interest in its history. Neither can a chronology of the past and gone firms of half a century ago, be with any degree of accuracy traced and stated, or the genealogy of those firms be given without too many errors as to dates and successions of firms coming into the record.

The statistics are given, so far as could be obtained, of the wholesale trade of Pittsburgh in its various branches outside of what might be called manufacturing commerce. The trade here exhibited is strictly that of the wholesale jobbers, or, more correctly, merchants, although the first term is used as a designation that has grown to be almost technical as applied to wholesale trade.

The term "Merchants of Pittsburgh" first occurs in Smollet's History, in a mention of the transaction of Major General Stanwix, at Fort Pitt, in the winter of 1759-60.

In 1803 the entire commerce and manufactures of Pittsburgh were summed up at \$350,000. Of this, \$93,000 was created by what was then termed the "Bartering trade," or the exchanging of one article of merchandise for another.

In 1808 there were fifty store-keepers or merchants. In 1817 there were 109 stores of various kinds in the city; and in 1836 there were 250 stores.

There is no doubt that Pittsburgh has, in her devotion to manufactures, neglected her mercantile and commercial opportunities. What those appear to others ten or fifteen year since, the following extract from the *Chicago Bureau* indicates.

The editor says: "Pittsburgh has always been, by its natural advantages and manufactories, a supply point for the west; which has also been the chief market for its production. We believe in a healthy competition as the life of progress and trade. Yet, when one visits these vast and varied factories; notes the natural union here of minerals and fuel; the ponderous combinations of machinery, skilled labor and capital; with the able and experienced brains at work in the management of the same, he is apt to think there can be little chance elsewhere for the same enterprise with much show of success. *It is certain that there is small probability of a discovery at any other point of similar combined advantages for manufactures*

"Were we located at Pittsburgh, however, we should counsel her citizens not to continue the error they are at present guilty of: namely—a neglect of commercial interests, while securing the supremacy of manufactures.

The locality of Pittsburgh as a commercial center as well as a manufacturing one is equally strong. "*The natural position for trade of that city (Pittsburgh) is something wonderful to think of,*" is the terse way in which the writer of the extract from the *Chicago Bureau*, before quoted, expresses an opinion held in even so remarkable a city as Chicago. Not only has Pittsburgh the great and growing railroad forces to reach and supply trade, but, as before expressed, those very roads have an increasing power in that they are centered into a city of what will shortly be approaching half a million of population, but there is the great and reserved force of the Ohio river that will again be, as it was before the railroad era, a large factor in her mercantile prosperity.

Dry Goods Trade.

The force and bearing of the preliminary remarks, as to the increasing volume of the mercantile business, is especially apposite to the wholesale dry goods trade of Pittsburgh. There are at present but seven strictly wholesale houses, but the magnitude of their sales is large.

In looking through such old-time publications as *Cramer's Almanack* and others that at an early date made a specialty of noting and publishing the statistics of the business of the then town of Pittsburgh, there is nowhere found any note of the dry goods or other similar mercantile business. As the writer in the *Chicago Bureau*, previously quoted, says, every effort was made for manufacturing supremacy, and little or nothing done to build up the mercantile interests.

In 1808 it is recorded of the manufacture of some articles that are to be classed as dry goods. About 58,000 yards were annually woven of linen-woolsey, cotton and linen mixed, averaging 56 cents per yard, worth \$38,848. Of linen *Cramer's Almanack* says:

"About 80,000 yards of flaxen linen, coarse and fine, are brought to the Pittsburgh market yearly."

The average price appears to have been about 60 cents.

In 1857, in "Pittsburgh As It Is," the first record is statistically made of the dry goods trade of Pittsburgh, but the wholesale and retail houses are all classed together, and it is stated that there are twenty-five houses in all, employing 311 hands, and transacting business to the amount of \$2,334,239. In 1876, in "Pittsburgh and Allegheny in the Centennial Year," it is of record that there are ten strictly wholesale dry goods houses in the city, who employ 144 hands, and whose sales are \$4,400,000. In this is included the houses dealing in millinery goods and in cloths exclusively. It is also mentioned that there are seventy-six retail and wholesale houses, whose sales will average \$7,000,000.

In 1876 it had increased in twenty years, so that the wholesale dry goods trade alone was nearly 100 per cent. greater than the wholesale and retail trade in 1856; and in 1886, only ten years after, the trade again shows an increase of equal proportions over the trade of 1876, as was shown by the trade of 1876 over that of 1856. This gain is made under that segregation of the trade into distinct classes, by which several firms that were in 1876 classed with the dry goods trade are now large establishments, dealing in exclusive millinery goods, cloths and similar classes of goods, that are by the trade technically designated as dry goods.

Any genealogical resume of the early firms in the dry goods business cannot be attempted, from the impossibility of obtaining the facts of the origination of the firms doing business in the early years, or their successors. Among them was James Breading & Co., afterwards Breading, Shipton & Hogg (James Breading, John Shipton and Jas. B. Hogg, who was lost on the ocean steamer "Atlantic," when she foundered off the Newfoundland coast). That firm was succeeded by Breading, Arnold & Co. (James Breading, Geo. E. Arnold, afterwards in the banking business, under the firm style of Geo. E. Arnold & Co.) This firm was one of the earlier wholesale houses established, and it is said it was the active agent in the establishment of 50 or 60 firms in various lines of business in sections of Western Pennsylvania and Eastern Ohio. There was also, along from 1830 to 1840, Leavitt & Co., in which Thos. M. Howe was a partner. This firm was succeeded by Baird, Leavitt & Co., and there were subsequent changes. Michael Tiernan & Co., afterwards

Tiernan, Murphy & Co., Waterman, Palmer & Co., McClurg & Dennison, Mason & McDonough, Gregg & McCandless in 1838. Afterwards McCandless, Jamison & Co., John H. Brown & Co., Smith & Hampton (Geo. P. Smith, Wade Hampton). This firm passed through several changes of style and subsequently became Wilson, McElroy & Co., and then McElroy, Dickson & Co., under which style the firm ceased to exist. In 1843 C. Arbuthnot established a new dry goods house, which is now Arbuthnot, Stephenson & Co. (Charles Arbuthnot, John C. Stephenson and others). And in 1850 Joseph Horne, the firm now Joseph Horne & Co. (Joseph Horne, A. P. Burchfield, C. B. Shea). James B. Haines & Sons, who succeeded Hampton, Wilson & Co. in 1852.

As before stated no complete chronological or genealogical resume can be satisfactorily made for the reasons given. It is a sorrowful reflection how soon firms and men, who were prominent in their day, pass from the memories of posterity, and all that remains of their toils and struggles or success is a dim recollection in the uncertain memories of some septagenarian.

Millinery Goods.

These were formerly comprised in the general stock of the dry goods jobbing houses. There are now three firms whose exclusive trade is millinery goods in their strict classification. Some of the most expensive buildings of Pittsburgh for commercial purposes are occupied by this class of trade, being built expressly to meet the wants of this business. J. D. Bernd, established in 1861, was the first of these exclusive millinery houses, and Porter & Donaldson, in 1872, the second. These three houses sell a larger value of millinery goods than the twenty-five dry good houses did in 1857, and one house more than all the firms dealing in millinery goods did in 1876. The cloth houses dealing in cloths and tailor trimmings form another segregation from the old style of dry goods houses. Of these there are three, who make sales to the amount of about \$600,000 a year at the present time. There are thus virtually thirteen wholesale dry goods houses now at Pittsburgh, whose average sales amount to \$10,000,000 a year, being an increase of nearly 150 per cent. in about ten years, and nearly 500 per cent. over the entire sales of the wholesale and retail houses combined in 1856, or a period of thirty years. If to this is, as was done by the record of 1856, added the sales of the retail houses, of which there are several whose transactions are as large as many of the wholesale houses, there should be added another \$10,000,000 of sales, or an entire increase in thirty years of over 1,000 per cent. in that time, and the dry goods trade of Pittsburgh and Allegheny cities may be stated at \$20,000,000.

The Hardware Business

of Pittsburgh may be considered as beginning with the first handful of settlers around Fort Pitt, and certainly with the period when emigration began to make Pittsburgh its point of departure for the wilderness beyond. It is, however, not likely that there were any distinctive hardware stores, but such articles as were

dealt in found their place among the assortments of the general store at that period. In an early adoption of the policy that the *Chicago Bureau*, before quoted, in an article some twenty years ago on Pittsburgh's advantages, pronounced as an error that, "they are at present guilty, namely, of a neglect of commercial interests, while securing a supremacy of manufactures." The early publications, from the days of *Cramer's Almanack*, make no mention of commercial interests. Such exhibits of the business of the town as were made are only of its growing manufactures, so that with the hardware business, as with other mercantile branches, nothing can be gleaned that will show its growth. With the increase of the settlement from village to town, and from town to city, the natural commercial developments into branches from a general store evolved, and distinctive hardware firms were established. Two of the wholesale firms of 1888 reaching in their origination and geneology back nearly to the twenties, Wolfe, Lane & Co., being the successors of Witmore & Wolfe, established in 1836, (Michael Witmore, C. H. Wolfe,) and that of Logan & Gregg, established by Logan & Kennedy in 1831. Among the earlier firms was also that of S. Fahnestock & Co., established in 1829, whose warerooms were at the corner of Diamond alley and Wood street, and was a noted resort of evenings for local politicians, the "wire pullers" of those days. Half a century ago, the counting house of evenings was a sort of a club resort where the "Quid Nuncs" of the times discussed the affairs of the State and formed their little political schemes.

The two houses noted as dating back to nearly the close of the century justify from their age a brief historical mention.

Logan & Kennedy were established, as before stated, in 1831. In 1848 it was succeeded by Logan, Wilson & Co. (John T. Logan, Robt. T. Kennedy, Philip Wilson, Edward Gregg). In 1857 that firm was succeeded by Logan & Gregg (John T. Logan, Edward Gregg). In 1867 that firm was succeeded by Logan, Gregg & Co. (Edward Gregg, Geo. B. Logan, a son of John T. Logan, Thos. Park), the existing partners.

John T. Logan died in 1872, Robt. T. Kennedy in 1873, and Philip Wilson in 1877.

John T. Logan, one of the founders of the firm, began his apprenticeship in the hardware business with Geo. Mayer, of Lancaster, Pa., at the age of 12 years. In 1819, having finished his term of service, he went to Philadelphia in that year with a new suit and a few dollars in his pocket. While there he was invited by a Mr. Hoag to come to Pittsburgh and assist him in the hardware business, and he arrived in the city in the fall of 1829. The next year Robt. T. Kennedy, having completed his term of service with a Mr. Kirkpatrick in the dry goods business, came to Pittsburgh. Shortly after he and Mr. Logan proposed to Mr. Hoag to become partners with him. That gentleman declining, Mr. Kennedy went back to Lancaster, and his father agreed to give him \$3,000 and loan a similar sum to Mr. Logan. The two young men, then about 22 years of age, then organized the firm of Logan & Kennedy at the date before mentioned,

.and began business at 68 Wood street. The salesrooms were subsequently removed to 87 Wood street, and afterwards to No. 127, and in 1851 to No. 52, now 306 and 308 Wood street, where it is still located.

The firm of Whitmore & Wolfe was, as before mentioned, established in 1836, by Michael Whitmore and Christian H. Wolfe, and began business at the corner of Liberty and St. Clair, now Sixth street. The firm subsequently became Whitmore, Wolfe, Duff & Co., (M. Whitmore, C. H. Wolfe, Geo. Duff, H. Jones,) when the salesrooms were removed to No. 50 Wood street, now 314, carrying on the Liberty street house until 1841, when they sold that part of the business to Wolfe & Lane, (B. Wolfe, Jr., Thos. H. Lane,) subsequently the firm style became Whitmore, Wolfe, Lane & Co., (M. Whitmore, C. H. Wolfe, Thos. H. Lane, Chas. T. Neale,) afterward the firm became Wolfe, Lane & Co., the present style of the firm, (Thos. H. Lane, John D. Cherry, Geo. M. T. Taylor, Horace G. Darsie.)

Christain H. Wolfe died February 28th, 1887. Michael Whitmore having died some years previous. Mr. Wolfe was really the founder of the business, and in the latter years of his life resided mostly in Philadelphia. He was a great lover of art and had accumulated a fine gallery of paintings. He spent many of the last years of his life in gratifying this taste and in associating with the artists, and quietly assisted struggling young artists by purchasing their pictures. He is said to have been a fine connoisseur in art.

Of the amount of the sales at the time cited there are no statistics; but in 1856 there were eight wholesale firms in Pittsburgh, whose sales are given as amounting to \$615,000. In 1886 there were but six strictly hardware firms dealing in what is termed shelf goods, cutlery, and similar merchandise, but their sales are stated at that date as amounting to \$1,800,000, or an increase in the thirty years of 300 per cent., with a decrease in firms of 25 per cent. This exhibit of what is technically termed the hardware trade, does not really comprise its bulk. In the segregation into special branches which occurs in all mercantile houses, with the increasing commerce of a community, the hardware business of the city has thus become divided. This mention of that class of the commercial interest is only of that of those dealing in what is understood as hardware and cutlery goods. Among those segregation from the hardware business are the scale houses. The making of scales was at one time a branch of the manufactures of Pittsburgh, having been established in 1833 by L. R. Livingston, in what was called the Novelty Works, but the making of scales is no longer a branch of Allegheny county's industries, and those sold by the firms who carry on that distinct branch of the hardware business are made elsewhere, and the aggregate of their sales should be added to the amount of that of hardware.

Drugs.

The selling of drugs in Allegheny county is, as with hardware, a business that goes back to the backwoods days, nor of it is there any record, until 1815 when four firms are mentioned in a directory of that year. Among whom are Avery & Vanzandt the Charles Avery previously mentioned in connection with

his philanthropy and in the account of copper, as one of the pioneers in that branch of Pittsburgh's industries. In 1837, there were seventeen druggists, of whom eight were wholesale firms. Among those are B. A. Fahnestock & Co., established in 1829 by B. A. Fahnestock, whose direct successors is the firm of Geo. A. Kelly & Co., who in 1872 succeeded through the firms of Fahnestock, Haslett & Schwartz, also, Holmes & Kidd whose successors became J. Kidd & Co., Kidd & Fleming (Jonathan Kidd, John Fleming) and then Fleming & Bros. (John Fleming, Cochran Fleming) which is the present style of the firm, although the firm sell now exclusively their own proprietary medicines. In relation to the habits of the drug business at that time the following extracts is the best illustration of the drug business at that time and might in some respects be used for other commercial interest are made from an after dinner speech by L. H. Harris, of the L. H. Harris Drug Co., at the first annual banquet of the Pittsburgh Oil, Paint and Drug Association December 10th, 1887.

"These were the 'good old times,' fifty years ago, when although the volume of business was small the profits were large. The commercial traveller was unknown. The head of the house was known personally to every customer and to all those from whom he bought goods. Purchases were generally made in person and a reasonable time was allowed for the filling of orders. An ordinary bill of goods was not expected to leave the house inside of two or three weeks. Although there was a general rush of business on each rise in the river, and for the spring and fall trades, the rush was on orders left weeks and sometimes months previous. I have heard of but one complaint of delay and that was from an Ohio customer, who after waiting some two months asked to know the cause, and afterwards apologized for being so impatient and explained that he feared it was because his previous bill was due and unpaid. Goods were sold in quantities convenient to handle, which were put up in advance and ready for shipment. What are called 'Grocers' Drugs' were always put up in kegs or boxes of twenty-five, fifty and a hundred pounds each and rarely sold in smaller quantities. Instead of sending for a quarter dozen of Soothing Syrup and a sixth dozen Castoria, as now, the old time orders called for one gross Godfreys Cordial, and six dozen each of the three sizes of Castor Oil which were always ready put up and at hand. These 'good old times' continued for many years—within the recollection of us all.

"The working hours were from six or seven in the morning until nine or ten at night and in the busy seasons much longer. Employees were expected to be at work all the time. There were not so many daily papers to read, no cigarettes to be smoked and no base ball games to discuss; but the inevitable Castor Oil, Godfrey's Cordial, Bateman's Drops, Essence Peppermint and the like were always at hand to beguile what might otherwise have been a leisure hour, and not only the errand boys and apprentices, but the warehousemen, clerks, salesmen and assistant book-keepers were expected to join in this pleasing pastime when not otherwise engaged. * * * *

"All goods were bought and sold on six months' credit, with an allowance of 5 per cent. discount for cash. Settlements were insisted on in all cases twice a year January 1st and July 1st statements were rendered to every customer, with a memorandum of the date of maturity by average, and interest was invariably charged on all accounts averaging past due at date of payment. * * * * In those days each dealer knew personally the standing of every customer, and but little was lost in bad debts. It was a usual practice for customers to drop in the store after supper to leave orders or for a friendly chat, and this seemed to involve the necessity for keeping open late in the evening."

The statistics of the amount of sales of the drug firms are not of record until 1856, when there were eleven wholesale druggists and patent medicine dealers. It is of record in "Pittsburgh As It Is," published in 1857, that the sales amounted to \$725,000. In 1876 there were nine distinctive wholesale drug houses, whose sales, according to "Pittsburgh and Allegheny in the Cennennial Year," (1876) amounted to \$1,260,000, employing 104 hands, being an increase on amount of sales as above of about 80 per cent. in the twenty years, but a decrease in the number of firms of some 20 per cent.

In 1886 there were five strictly wholesale drug firms and eight firms preparing proprietary medicines, and one dealing in druggists sundries, being virtually fourteen firms in the business. The segregation, as before mentioned as occurring under natural business laws, being strongly manifested here. The drug business as embraced in this combination is stated in "Pittsburgh's Progress, Industries and Resources" (1886) as making sales from \$2,250,000 to \$2,500,000, an increase in the ten years from 1876 of about 100 per cent., although there was a decrease in the number of firms of nearly 50 per cent., and over the figures of 1856 of about 350 per cent., with a decrease of over 60 per cent. in the number of firms. As the statistics of 1856, 1876 and 1886 were all collected by the same person, through personal interviews with the various firms, they are probably approximately correct, and possibly rather under than over the actual facts, as the author of those publications complains of the difficulty of obtaining full statistics.

In 1888 there are the same number of strictly wholesale drug firms. George A. Kelly & Co., the successor of B. A. Fahnstock, of 1829; C. A. Henderson, established by Wm. Henderson in 1841; W. J. Gilmore & Co., established by John Hannen in 1825; L. H. Harris Drug Company, established by Harris & Ewing in 1867, and E. Holden and Fleming & Bros., established by Holmes & Kidd in 1828, the oldest proprietary medicine house. Touching this point, Mr. Harris, in his remarks, before quoted from, says:

"There were twelve wholesale druggists here a quarter of a century ago, and only five left to-day to tell their story! There are volumes of unwritten history in these statistics. Is it not, in a great measure, a long story of largely increased labor, vexations, expenses and risks, and a constant decrease in the margin of profit? Is it not a fact to-day that the wholesale druggist who can cover all the expenses of doing business by the profit on his regular sales does all he dare hope for, and that his *profits* are the result of favorable speculation in goods that fluctuate in value?"

And Mr. Harris also states the following touching changes in character of goods:

"In glancing over our price lists year after year, although changes are made daily, I have been surprised that a list of thirty years ago, or at an interval of ten years (except during the years of the war or immediately succeeding), will average about the same to-day in the total footings of the entire list. The size of the list has, however, steadily advanced in growth. New remedies, new chemicals, and, most of all, proprietary goods seem to come on the market with undue rapidity, and, unfortunately, sometimes come to stay—on our shelves."

"Taking a price list of 1855 I find but 144 items on the list of proprietaries, and this included the essences, paregoric, laudanum, Bateman's drops, and other goods put up on the premises. In 1860 the same list had increased to 230; in 1877 to 550, and to-day upwards of twelve hundred items will not cover the list of those in general demand in this market; and this does not include the pills, fluid extracts, elixirs and plasters of various kinds that would require a separate volume to enumerate."

The Wholesale Grocery Trade

of Pittsburgh is to day a large and growing one, and is the largest of the mercantile interests of the city. The upward movements going on in other branches of the wholesale trade of the city is decidedly perceptible in this.

For some time after the opening of railroad communication with the East this branch of the city's trade was to some extent injured, but a reaction once begun a steady growth of the grocery trade has followed. Groceries are of so staple a character and without fashion that where they are purchased is of no consideration, and likewise as they are handled at such small per cents. of profit it is those small percentages that decide purchasers. In this respect there are advantages at Pittsburgh in many articles that are among the standards of the trade. Sugars, for instance, are sold at as near cost as can be arrived at. New Orleans molasses, from the advantage of river carriage and cheap freights, is also a feature of the market, and also tobaccos. The standing of the grocery trade of Pittsburgh is so high that the firms have at all times the opportunities of the best options on all goods they wish to purchase, and buying generally for cash, and being thus rated, have at all times the offer of any bargains in the market. This high standing is well deserved, for it is a noteworthy fact that there has been but one failure in the wholesale grocery trade of Pittsburgh in a quarter of a century, and that was rather a liquidation than a bankruptcy. This is a show of solidity, financial strength and business ability that is hardly equalled in any other city. The grocery trade of the city has always had the tradition of being close buyers, cash men, which is well sustained, and of being as liberal sellers. Buying close, most always as before stated for cash, they are subsequently able to sell as close, and from their own financial strength sustain their customers and extend to them as liberal terms as the customs of the trade justify or their needs require. In the preliminary chapter of this volume the pioneer character of many of the industries of the city are mentioned, and in the grocery trade this feature also obtains. It was at Pittsburgh that the feature of roasted coffee, now so leading an article in all grocery stock, was first introduced, and eventuated in Pittsburgh becoming the heaviest roast coffee market in the country and the growth at Pittsburgh of the largest coffee house in the world. As previously mentioned, "roast coffees" are a distinctive department of the wholesale grocery trade of Pittsburgh. There are in the city six coffee roasting houses.

The first attempt to introduce roast coffee in the stock of grocery houses was at Pittsburgh, by the old Hope Spice Mills proprietors, Baxter & McKee, who had a small establishment for grinding spices on Third avenue near Wood street. They

began roasting a few bags to sell, in connection with their spices, to the retail trade of the city as a novelty, about 1840-2. Previous to that the roasting of coffee was one of the items of work in each household. To-day it is most probable that in households there is no coffee roasting, except from an occasional "whim." John Arbuckle, of Arbuckle & Co., was the first to see to what extent this field in the coffee trade of the United States could be cultivated, while the house of Dilworth Bros. are an energetic second in the race.

There are also in Pittsburgh six distinctive tea houses, making 26 strictly wholesale grocery, tea, and roast coffee houses, the latter being carried on by the same firms that are in the general grocery business. In 1856 there were 31 wholesale grocery houses in Pittsburgh, although there were some that did a mixed business of groceries, liquors and produce. The sale of those firms amounted to something over \$7,500,000. In 1876 there were 21 firms transacting a strictly wholesale grocery business, with sales to an average of \$12,250,000 a year, employing 250 hands, being an increase in sales of 80 per cent., with a decrease of nearly one third in number of firms. In 1886 there were 26 firms, employing about 500 hands, whose sales were over \$22,500,000 being an increase of about ninety per cent. in ten years, and over the sales of 1856, in thirty years, of 200 per cent.

The Produce Trade

is, while one in its general acceptation, divided into three classes, the grain and hay dealers, the general produce commission firms, and the wholesale flour houses. Touching the first division of this trade it is said in "*Pittsburgh's Progress, Industries and Resources*" (1886):

"Whatever may have been said in previous pages of the difficulty of obtaining absolute statistics of any department of the trade of Pittsburgh may be repeated of the produce business. This is especially the case with the grain trade, and what figures are here given are but indicative of what the business is, not an exhibit of its real proportions, which is something 'no man can find out.' Even the 'Produce Exchange' of the city confesses itself beat on this point from the willful neglect or indifference of its own members. In presenting other matters in this volume touching the resources of Pittsburgh this failure of application of the power of the fullest possible exhibit of business transacted as a magnet to attract capital, enterprise and trade, has been lamented. Business is like a snowball, gathering as it grows, and still gathering greater bulk as it increases in size. It needs no great business acumen to understand that there is no inducement for produce to go to a small market or a sluggish one, but that to one of a reverse character the natural flow of trade is. That Pittsburgh is neither a small market or a sluggish one there are many facts to show, but that it is statistically a secretive one is also true. Whether this comes from certain inbred characteristics that obtained in the early days of Pittsburgh's settlement and growth, or from an absence of public spirit that fosters a trade selfishness which is as a stupefying vapor to commercial progress, cannot be said, most probably a mixture of both."

There is no doubt that if the full statistics of the produce business of Pittsburgh could be presented as thoroughly as those of some other cities that the showing of its magnitude would not only be a surprise, but create thereby fresh accretions of capital and material for transactions. Be that as it may, the bulk of the produce business of the city of Pittsburgh, notwithstanding the adverse influence comment-

ed on, has been for the past several years steadily on the increase, though it is far from what the position of the city should command. There is no better point for the holding of grain for the advantages of the eastern and foreign markets. The western rivers and railways afford admirable facilities for the concentration of grain or other produce at this point."

From the governing reason that called out the above quoted remarks, and which appears from previous publications to be a constitutional characteristic of this branch of trade, there are no statistics by which the status of the trade at various dates can be prepared. There were, however, eighteen firms transacting a wholesale hay and grain business in 1886, also six wholesale flour houses and four flour mills. There were also twenty-seven general produce commission firms, and one exclusive cheese house, selling 3,500,000 pounds of cheese yearly. The general commission houses, in 1886, made sales to the amount of \$4,000,000. As observed in the quotation, just what amount of business these twenty-eight firms transact cannot be obtained, nor, therefore, can any complete statistics of this branch of the business be compiled. However, a report of the Pittsburgh Chamber of Commerce, for 1882, gives the transactions of the flour and grain dealers for that year at \$4,891,630, and the produce business at \$2,000,000. A report of the same body for 1884, give the transactions of the flour and grain dealers and flour mills at \$7,970,000, or an increase in two years of nearly fifty per cent. The figures obtained for the produce trade in 1886, as compared with those of the report of the Chamber of Commerce of 1882, shows an increase in the four years of 100 per cent. An authority before quoted says:

"Although such figures as could be obtained were so incomplete for the year of 1885 of the flour and grain trade, yet sufficient was gotten to indicate that the progress shown from 1882 to 1884 was continued from 1884 to 1886, and the business most probably sums up to \$10,000,000."

If to this, assuming that it is approximately reliable, is added the statistics of the produce commission firms, it may be assumed that the entire sales of this branch of the mercantile interest of Pittsburgh will amount to some where in the neighborhood of from \$14,000,000 to \$15,000,000. It is a great mistake that those interested in these branches of the city's trade "hide their candle under a bushel," and prevent the great proportions of its produce business from being seen, and thus secure to the city the advantages that would arise from the reputation of its being an important produce center. The

Wholesale Boot and Shoe Business

is carried on by nine firms, one of which dates back to 1817. The sale of these firms average about \$3,000,000 a year. In 1857 the sales of the seven firms which in that year carried on that branch of business, are given at \$456,000, which is quite probable is below the actual figures. In 1876 the same firms made sales to the amount of \$1,600,000, or 300 per cent. increase; and in 1886 the sales were compiled at over \$3,000,000, being an advance on the great increase of 1876 from 1856 of about 50 per cent., and over 600 per cent. on the sales of thirty years pre-

vious. This is indicative of the increase of the wholesale business of the city, and corresponds with that in other branches, and indicates an advance along the entire line of mercantile interests.

In 1887 a corporation, entitled the Pittsburgh Shoe Company, was organized, and began making boys' and men's fine and medium grade of shoes. Their factory is of three stories, about 120x60 feet, with an L. The president is Gabriel Mayer; secretary, J. F. Grimes; treasurer, Philip Wagner. Their present capacity is 300 pairs of shoes a day, and they employ seventy hands. The outlook is for a successful establishment of this addition to Allegheny county's industries, as they have now more orders for shoes than they can fill. Why shoe manufacturing should not become an industry of larger proportions here is a question. Pittsburgh is not only a large market for leathers, but that from the tanneries of Allegheny county is, in many kinds, the standard of the markets all over the country. Pittsburgh is, geographically, a central point for distribution, and it is possible that in the "may-be's" of the future New England may find a rival in Allegheny county, as it has in other manufactures.

There are four hat houses who are exclusively wholesalers of this class of goods viz.: McCord & Co., 509 Wood st., established 1798 by Robert Peebles, which is the oldest house west of the mountains in this line of business, having been established when there were but 1,395 inhabitants in the then village of Pittsburgh, and is probably the establishment mentioned in "A View of the Trade of the City in 1803" as selling 2,800 fur and wool hats at \$5 each, and ninety dozen chip hats at \$7.50 per dozen. There is also W. J. Moreland, 406 Wood street, established in 1839 by R. H. Palmer; Oppenheimer & Kaufman, 705 Liberty street; J. L. Cooper & Co., 636 Liberty street. These four firms transact a business of between \$450,000 and \$500,000 annually, employing about thirty-five hands.

Pittsburgh is the recognized head of the market of the United States for certain kinds of leather, among which that which is technically known as harness leather, of which that of Pittsburgh make is the market standard. It was natural that in view of the oak and hemlock forests of Western Pennsylvania that this industry should early take root at Pittsburgh.

Of the first tanneries established at this point there is no authentic information, but in 1808 there were, according to "Cramer's Almanac," which gives at that date a statement of the "master workmen" in the town, seven tanners. In 1812, according to the same publication, there were in the town six tanneries. In 1817, in a report made by order of the Town Council, there were seven. In 1857 there were, as given in "Pittsburgh As It Is," thirteen tanneries having 477 vats, employing 132 hands. In 1876 there were fourteen tanneries employing 166 hands, who tanned 70,000 hides, besides calf and sheep skins, and the value of their product is stated at \$850,080. One of those earlier tanneries established in 1790 by William Hays is virtually continued in existence at the present date.

In 1888 there were twenty tanneries. These twenty tanneries occupy an area of thirty acres and employ about 750 hands. The value of the plants is estimated

at \$750,000 and the value of the output as near as figures can be had is \$3,500,000.

Outside of the tanneries, mention of which is made in another chapter, there are four strictly wholesale dealers in leather and hides. These four firms value their business transactions at \$500,000 to \$600,000.

This would make the leather business of the city something over \$4,000,000.

The Carpet Business

At Pittsburgh, as a distinctive mercantile business, dates back to about fifty years since. In 1834 Samuel Thompson, who, in 1807, with his brother John, carried on a cloth and tailoring store one door from the corner of Market and Water streets, began the selling of carpets in connection with dry goods at the corner of Fourth and Market streets. In 1837 he relinquished the dry goods business to his son Washington, continuing the carpet business on the second floor of 110 Market street. In 1835 he disposed of the carpet business at 110 Market steeet to his son-in-law, who, in connection with David Noble, formed the firm of W. McClintock & Co., Mr. Thompson organizing the firm of Samuel Thompson & Son (Robert D. Thompson), and selling carpets on Wood street near Fifth avenue. This firm soon dissolved, and Robert D. Thompson succeeded David Noble in the firm of W. McClintock & Co., who opened a new store at 75 Fourth avenue.

The building was burned in the fire of 1845. When rebuilt the firm again occupied it, but in 1853 removed to 110 Market street again. In 1854 Alexander and George L. were admitted to partnership, under the firm style of McClintock Bros.

The firm was dissolved in 1855, W. McClintock continuing the business alone until 1862, when his son Oliver was admitted to partnership, the firm style being McClintock & Son. This firm was dissolved in 1863, and the firm of Oliver McClintock & Co. (Oliver McClintock, W. McClintock, George R. Senior,) was formed January 8th, 1863, and purchased the carpet store of Robinson & Co. at what is now 33 Fifth avenue, W. McClintock continuing the business at 110 Market street until 1864, when he retired from the carpet business. He died July 28th, 1870. On January 1st, 1864, Walter L. McClintock was admitted as a partner to the firm of Oliver McClintock & Co. On January 1st, 1874, Thompson McClintock was admitted a partner in the firm, and on January 1st, 1884, upon the retirement of George R. Senior, Frank L. McClintock became a partner in the firm.

The four brothers, Oliver, Walter L., Thompson and Frank L., under the style of Oliver McClintock & Co., perpetuate the direct line of business succession from 1807 of their maternal grandfather and their father; W. McClintock & Co. being among and perhaps the only one of the old firms of the county whose business dates back more than fourscore years in direct family succession.

Other firms dealing in carpets were afterwards established, among whom were W. McCallum & C., about 1850, since closed out; McFarland & Collins, now J. W. McFarland, April, 1863; Bovard & Rose, Dec., 1866, and E. Groetzinger, in 1885, who also commenced in the dry goods business in 1862, and who in the former

year abandoned the dry goods business to deal exclusively in carpets, combining a large wholesale carpet department with the retail.

The FURNITURE BUSINESS of Pittsburgh is largely of a retail nature. There are some eight firms manufacturing special articles, one firm employing 175 hands, manufacturing all descriptions of furniture, and seven others making special articles. These eight firms employ an aggregate of 300 hands, and manufacture furniture to the amount of about \$550,000 a year. There are some exclusive retail establishments who also finish up goods and do some wholesaling. The whole number of firms is about forty, employing some 400 hands, and their sales aggregate \$1,250,000 a year, and the furniture business of the city will approximate \$1,800,000. In this class of business the selling of carpets has been combined with that of furniture, as also in some carpet houses the sale of furniture. Into this business has also been introduced the feature of installment sales, which was first introduced in Pittsburgh by W. H. Keech, combining carpet, furniture and upholstery. The sale of carpets with some descriptions of furniture has also been adopted by upholstery firms, so that it is difficult to make any statistical statement of the furniture business as a distinct branch of business.

The Clothing Business

of Pittsburgh has somewhat changed its character since the days when the making of "buckskin breeches" to the value of \$500 were of sufficient importance to be one of the items in an exposition of the manufactures of the time—in 1803—and the making of "linsey woolsey" was an important item. The "buckskin breeches" and the "linsey woolsey" disappeared before the advent of "store clothes," and although there were no visions then of the immense ready-made clothing houses of the present day, there were undoubtedly "custom tailors" from whose small shops the working man and the fashionable gentleman of the day were fitted out in the latest fashion with broadcloth, cassimere and cassinet adornments. The "ready-made" clothing stores came later, in the gradual growth of population. It was about 1838-40 that the "Three Big Doors," as it was called, of John McClosky's ready-made clothing establishment was projected and opened—the prototype of Gusky's immense bazaar of to-day. Although but a little 24x60 feet building, it was for several years a notoriety of the city, and its piles of ready-made coats, vests and pantaloons were a wonder. It was a favorite dealing place for the raftsmen from up the Allegheny, the coal miners and farmers from the country round. Others soon followed in McClosky's wake, and ready-made clothing houses began to abound. These found rivals that began to spring up in other towns and villages, and the establishment of wholesale houses for ready-made clothing became a promising field for business investments. In about 1847-50 this branch of Pittsburgh's mercantile industries began to develop, being at first in combination with the retail houses. In 1850 Klee & Kaufmann entered the field as an exclusive wholesale firm. In 1865 this firm was succeeded by J. Klee & Bro., and they by J. Klee & Co. in 1880, the style of the firm still being J. Klee & Co.

In 1857 H. & M. Oppenheimer established the second wholesale house, who were succeeded by M. Oppenheimer, under which style the business is still carried on. The two firms existing in 1857 sold \$600,000. In 1876 there were three wholesale clothing firms, whose business was about \$650,000, being an increase of one firm and a small per cent. increase on the business of twenty years previous, which was probably incorrectly returned, and is also to some extent accounted for by the reaction in prices after the war and competition from the growth in firms in similar business in the East.

In 1888 there were four firms, and the amount of sales as given was about \$700,000. Between 1860 and 1870 there were several firms who embarked in the business, among whom were Hampton, Campbell & Co., who relinquished the dry goods business for that purpose; E. Frowenfield & Bro., and Morgenstern & Bro., the latter two subsequently removing from the city.

The growth of the retail business in this line has grown to be immense, several of the firms engaged in it having almost palatial sales rooms, one of them—Gusky's—occupying the front of an entire block. It is said that Pittsburgh is the largest market for clothing in the country. Statistics would show this, but cannot be obtained. This business, as in others, has become divided into classes, there being houses exclusively making pantaloons, and others special garments. There are also some two or three firms dealing exclusively in ready-made ladies' clothing.

There are also three firms dealing in men's furnishing goods whose sales average \$350,000 a year, and four wholesale firms in what is known to the trade as "notions" doing a business of from \$150,000 to \$175,000. There are six wholesale queensware firms whose sales will run about 200,000 to 225,000 a year. One firm in wooden and willow ware making sales to the amount of \$200,000. Two who deal in cordage, with sales to the amount of \$200,000 annually. Six firms dealing in agricultural machinery, whose sales will average \$600,000 yearly. Four firms selling rubber goods and leather belting with sales to the amount of quite \$400,000. There are six firms dealing in machinery whose sales are over or about \$600,000. Two firms dealing in tin, spelter and similar metals and tinners' material with sales to a value of \$600,000 yearly. Four firms selling saddlery and carriage hardware to amount of \$600,000 yearly. Seven wholesale dealers in sewer pipe, terra cotta ware and cement selling about \$600,000 annually.

The tobacco business of Allegheny county is a large one. There are 250 cigar factories, in which there are employed 750 hands, which make returns in the 23d and 24th districts of the Internal Revenue, of \$1,250,000. Several of the wholesale grocery houses have cigar factories of their own. One firm having a factory in another district and making 10,000,000 cigars yearly. The making of cigars is more largely carried on than any other branch of the tobacco business, with perhaps the making of cut and dry and snuff by Weyman & Bro. whose factory was established in 1823 by George Weyman. There are seven firms engaged in the wholesaling of tobacco leaf, selling one year with another about 3,000,000 pounds. There are also twenty-one wholesale firms selling tobacco and cigars. One firm

Reymer & Bro. giving especial attention to the importation of the finer grades. Exact statistics of the monetary value of the tobacco trade, like those of many others, could not be obtained, but from those collated the tobacco trade of Pittsburgh may be estimated at \$1,500,000 or over.

The wholesale liquor business amounts to \$2,300,000 yearly, there being eighteen firms engaged in it, and there are in addition some thirty other firms who combine retail with wholesale, with about \$1,200,000 more of sales.

There are eight wholesale firms dealing in PAPER, the value of whose business is annually about \$1,200,000.

There are five strictly wholesale jewelry firms. Of these Heeren Bros. & Co. have a large factory for manufacturing, and is the only house who carry watch-makers and jewelers supplies. These five firms sell goods annually to the value of \$1,000,000.

The PORK PACKING business is also an important one, there being six firms engaged in it. In 1856 there were seven firms transacting a business of \$650,000. In 1875 there were eight, whose business was short of \$2,500,000, being, however, an increase of 400 per cent. in twenty years. In 1886 there were but six firms, being a decrease in firms of 25 per cent., but their business was stated at about \$3,000,000. This latter amount may be something less but is believed to be nearly correct.

The foregoing is a summary of the wholesale mercantile interests, as embraced in their leading classes,—several of which run into minor ramifications that are not itemized, to mention which in detail would be to render this chapter prolix. The gross value of what may be considered as the mercantile interest, thereby meaning the business of the firms noted in the foregoing paragraphs, and their co-relative branches, may be estimated as from \$70,000,000 to \$75,000,000 yearly. The statistics that have been given in a number of instances show that the city is fast growing in importance as a commercial center. There is no reason why it should not, it has all the advantages of geographical position, and great transportation facilities to render that available.

The CRACKER BAKING is an important branch of manufacturing business of the city that is perhaps more properly classed among the manufacturing interests than mercantile. The first bakery in Pittsburgh was established in 1786 by Hugh Gardner and John Cowan, who, on December the 2d of that year, advertised in the *Gazette*:

“As they mean to have biscuit ready baked and packed in barrels or kegs, or loose for smaller demands, therefore, will be able to supply expeditiously those on a passage down the Ohio river to Kentucky or elsewhere, and surveyors or others going to uninhabited parts.”

There are no further special mention, but in 1808, in the list of “master workmen” published in that year there are six bakers mentioned. In the report of 1817 by a committee of Councils of manufactures, there is no mention made of any of these cracker or other bakeries, although it cannot be supposed that the business was not carried on. In 1856, *Pittsburgh As It Is* mentions R. & J.

Davis having a cracker bakery at 91 Liberty st., who were the successors of John Davis who established the business in 1831. Of this establishment S. S. Marvin & Co. were successors in 1866. In 1856 there were six factories producing crackers to the amount of \$114,000. In 1876 there were four cracker manufactories whose sales averaged about \$500,000. In 1886 there were five establishments, employing 380 hands, and the incomplete statistics shows an output of over \$700,000. In 1888 Pittsburgh has the largest cracker bakery in the United States, (S. S. Marvin & Co,) and five others, the value of whose output will exceed \$1,000,000.

The Lumber Trade

of Pittsburgh is one that is largely supported by local demand. In 1807 there were four lumber yards at Pittsburgh. In 1812 the quantity of lumber brought down the Allegheny was 7,000,000 feet, worth about \$70,000. In 1831 the amount of lumber brought down the Allegheny was of a value of \$300,000.

The increased demand consequent upon the rapid progress of the population of the Ohio Valley and the manufactures of Pittsburgh rapidly swelled the amount of lumber annually cut on the Allegheny and its tributaries, until the amount of lumber run from that section and sawed upon their banks increased. About one-half of the entire "cut" of the mills was consumed at Pittsburgh; the remaining half was taken to ports below and sold.

Of late years the supply from that section has not increased, but the amount used in the city and manufactures has largely increased. The supply is augmented by receipts from the western counties of Pennsylvania, through which runs the Pennsylvania Railroad, also from the lakes.

The lumber trade strictly is that of the dealers in lumber as brought to the city in railroad cars, and so sold or disposed of in the wholesale lumber yards; also that used and sold in the saw-mill and planing-mill products and in the cooperages. The consumption of timber or wood as used in the furniture manufactures, the carriage and wagon factories, etc., are embraced in the mention of those industries. It has been difficult to classify the dealers in the various branches of this business. There are four wholesale dealers by car lots, who handle about 55,000,000 feet of pine and hard woods a year. There are twenty-one firms who sell from yards about 70,000,000 feet, of a value of \$1,500,000, and two firms selling 6,000,000 staves. There are also twenty-three planing-mills, who use 40,000,000 feet of pine lumber, producing sash and doors, flooring and boxes, worth about \$800,000. There are thirty cooperages in the city, the product being about 700,000 barrels, besides large quantities of nail and white lead kegs. It is estimated that the entire receipts of lumber is 150,000,000 feet, and the total value of the lumber trade rising at \$4,000,000.

CHAPTER XVII.

From Pack Horse to Rail Roads.

A panoramic painting of the growth of transportation facilities from the date at which the county of Allegheny was organized would be one illustrative of the whole progress of civilization on the western continent. Its story to be told in all its fullness of incident, anecdote and biography would make in itself a volume. It would be an allegory of the Ohio river, around whose headwaters Allegheny county stands, finding its beginnings in the mountain streams and rivers, growing stronger and broader as its feeding creeks and forming rivers unite, until it sweeps on the great current which has been so large a factor in the development of the West and in the growth of Allegheny county.

The full history in the growth of transportation facilities, as they are integral factors in the growth of Allegheny county, would, if narrated in all the detail of personal biography, public action, financial negotiations, mechanical achievements and engineering skill, make chapters instead of pages, into which it must in this volume be condensed. As thought reaches back into the years of more than a century ago, it contemplates the solitary trapper bearing his little pack of peltry to the settlements to exchange for his few needed supplies, following the course of the mountain streams, of the valleys and gorges, along which now rush and roar the locomotive and its lengthy train of cars, or, returning again to the wilderness, with heavier burdens, if perchance more compact, seeking easier paths. They were the explorers of the most valuable routes and easiest grades for pathways between the east and the west. In their footsteps followed the heavier laden pack horse, and along the same route the emigrant's white-topped wagon, and practically the turnpikes and their ponderous "Conestoga wagons," the stage coach, and ultimately, in general, the iron ways of railroad transportation.

The pack horse was the pioneer in transportsations for general demands of commerce. Although it may readily be supposed that individuals may have utilized "old grey Dobbin," or some other trusty family equine, to carry the scanty household equipments in their emigration westward, yet pack horse lines were the first regular system of public transportation.

From them the carrier system of transportation increased and became an important element in the commerce between the east and the west. It was no uncommon sight, previous to 1790, to see at Mercersburg, in Franklin county, and other points in Pennsylvania, and Hagerstown and other towns in West Virginia from 50 to 100 pack horses in a row taking on their loads of salt and iron and other commodities for the Monongahela country. Each horse carried about 200 pounds of merchandise, and two men were required to take charge of a file which consisted of from ten to fifteen horses, tied "head and tail" as it was called. One man taking charge of the lead horse the other keeping an eye on the adjustments of the load and urging the speed of any of the horses that showed an indisposition

to keep step with the rest. A. H. Reed, in the Pittsburgh *Commercial Gazette* of July 29th, 1886, the number commemorative of the centennial of that paper, in a sketch of the progress of overland transportation, writes :

"In 1760, Carlisle was the most advanced post of the State. Loading their pack horses with blankets, whisky and powder, the Indian traders climbed the gloomy Alleghenies to the little known region beyond. It was no easy thing to make progress along the narrow trails. Newly-fallen trees continually blocked the way, and the boughs of the overshadowing forest eternally switched the traveler in the face. By 1770 the footpaths had become broader, smoother, and harder. The click of the iron-shod pack horse had grown familiar to the wilderness. The forest in places had shrunk back from the bridle-path, and a cabin nestled in an occasional clearing. Other paths were cut out. The tide of western immigration set in. Long trains of pack horses loaded with stores and agricultural implements, with furniture and cooking utensils, moved towards the setting sun. The chatter and laughter of white children were mingled with the gruff voices of the pack traders. In the year 1790 there were only six freight wagons engaged in hauling goods to Pittsburgh from over the mountains. Groceries, liquor, salt, iron, etc., all entered the town on the backs of horses. Eastern merchandise was hauled by wagon as far west as Shippensburg or Chambersburg, in Pennsylvania, and as far as Winchester, in Virginia, and from there packed the remainder of the journey. On the return trip from Pittsburgh the horses were loaded with furs, skins, and ginseng. A pack train numbered between ten and twenty-five horses. When two trains going opposite ways met in the narrow paths of the mountains there was always trouble in passing and accidents were frequent. Up to 1796 all the salt used in this region was packed across the mountains."

The date mentioned by Mr. Reed in the foregoing extract may be assumed as about the time when the famous Conestoga wagon came into active operation, as the transportation facility of that period. John Hayden, however, of Fayette county, in 1789, drove the first wagon load of goods over the southern route as it was called. He drove four horses hauling about one ton and was nearly a month making the trip to and fro from Hagerstown, Md., a distance of 140 miles, receiving \$8.00 per hundred for the freight charges from Jacob Bowman, of Brownsville, for whom the goods were. From that date until the advent of railroads into Allegheny county the Conestoga wagon was a factor in commercial transportations and a familiar and picturesque feature in roadway landscapes.

What the "Mike Finks" were on the western waters the Conestoga wagoners were on the mountain roads, a hardy, jovial class of men, muscular and learned in horses, and the dangers of steep hill grades and "sidling" mountain roads. There were favorite "inns" along the turnpike between Pittsburgh and Chambersburg, to reach which they were wont to drive hard and long, for their night's rest. They were a "sun up," "sun down" class of toilers, except of moonlight summer nights, when they would prolong as far into the evening as was judicious for their horses to haul. Those roadside taverns were the scene of many a frolic, and woe betide the transient travellers who became involved, at such times, in a dispute with a gathering of Conestoga wagoners. Honest and reliable, if at times a little given to a frolic, the merchandise in their charge was faithfully delivered, despite the temptation of lonely roads, dark nights and convenient precipices to divide

with a confederate. There was not a "haunted hollow" or a scene of Indian warfare along the line of which they had not a tale to tell. While the long pleasant summer days had for them its delights among the mountain gorges and in the winding roads along the hill tops, the storms of winter brought its dangers and its hardships in their heavy snows and icy roads, down whose steep descent it was often perilous to drive. The race of wagoners is gone with many another peculiarity of earlier days, and left less trace of their existence, as a class, than even the flat-boat men of the Ohio. T. B. Read the poet, and author of *Sheridan's Ride*, has honored them in a lengthy poem entitled "*The Wagoner of the Alleghenies*." Among their favorite places of rendezvous in Allegheny county was the old Eagle Hotel on Liberty street, Pittsburgh, at one time kept by John McMasters and afterwards by Wm. Lerimer, Jr., where the Seventh Avenue Hotel now stands. In the rear of this tavern was a very large yard, in which at times fifty or sixty of these immense wagons would be corralled, and the sitting and bar rooms of the tavern filled with wagoners. There was another tavern on Liberty street at the head of Tenth street also much frequented by them.

While to a considerable extent the number of Conestoga wagons decreased on the opening of the canal, they continued in use until the opening of the Pennsylvania railroad, when, their occupation gone, they disappeared from the turnpikes, and their honest rugged drivers vanished from city life, seeking some favorite country village homes and employment. There for many years after an occasional survivor could be found. A pensioner of some once well patronized roadside inn, telling around the fires at nights or on the bench before the door on summer afternoons, tales of fearful runaways of six horse teams in winter down the icy mountain roads, of strange sights seen in the dusk of evenings in haunted spots, and isolated taverns, which solitary travelers had entered at night fall to be seen no more.

With the opening of the Pennsylvania canal before whose increased powers of transportation the Conestoga wagon gradually passed away, and the third condition of transportation facilities arose.

On March 27th, 1824, an Act was passed by the legislature of Pennsylvania, authorizing a board of three commissioners to examine routes for a proposed canal. On April 25th, 1824, a further act was passed providing for a board of five commissioners. Wm. Darlington, Robert Patterson, John Sergeant, David Scott, and Abner Lacock were appointed by the Governor, to report on the subject.

The committee reported favorably, and on the 25th of February, 1826, the Legislature passed an Act "to provide for the commencement of the canal, to be constructed at the expense of the State and to be styled the Pennsylvania Canal." This Act authorized the construction of a canal, from the mouth of the Swatara on the Susquehanna to a point opposite the mouth of the Juniata, and from Pittsburgh up the Allegheny to the Kiskiminitas. On April 9th, 1827, an Act was passed authorizing the extension from the Juniata to Lewistown, and from the mouth of the Kiskiminitas to Blairsville.

An Act of March 28th, 1828, authorized the extension of the canal from Lewis-town to the highest desirable point of the Juniata to the mouth of the Swatara, and from Blairsville to the highest desirable point of the Conemaugh, and also the construction of a railroad over the Alleghenies. During the summer of 1827, the Allegheny, Pine Creek, Lower Kiskiminitas, and Conemaugh lines were put under contract. In 1828, the Upper Kiskiminitas, Conemaugh, and Lower Ligonier lines were placed in contractor's hands. During 1829-30, the Upper Ligonier line through Johnstown was contracted for, and in April and August, 1831, the Allegheny portage railway and the completion of the railway to Holidaysburg was put under contract.

In May, 1833, the contracts for the stationary engines for the incline planes were contracted for, and in 1834 the whole system from Pittsburgh to Philadelphia was completed and ready for business.

Of this State enterprise, other than its local history in Allegheny county, these pages are not called to make note. It was a great incentive to the commerce of Allegheny county and brought into being a new class of business firms, technically termed "transporters," men with capital, good executive abilities and untiring energy and industry. For the labor involved in the loading and dispatching of the boats east and the distribution of the cargoes brought west, or their reshipment down the Ohio river required rapid and accurate work. Those were the days when draymen were an important class of citizens in Pittsburgh. Hundreds of drays were employed in the transportation of merchandise between the river and the canal. Many of the draymen owned their own drays and employed subordinates while the leading transportation companies had theirs.

No public procession of the period was complete without its turnout of draymen, mounted on their dray horses, sometimes in white frocks and again with simple badges. The canal had been constructed with a tunnel through the city under the eastern slope of Grant's hill, beginning near the corner of Seventh and Grant streets, running in a south-westerly course, and passing under the church now at the corner of Sixth avenue and Fifth avenue debouching on the Monongahela river near Try street, part of which is now used by the St. Louis, Pittsburgh, and Chicago Railroad in passing through Pittsburgh. Another branch extended through Allegheny City along the line of Lacock street, and terminated at the Allegheny river near Balkam street. These branches were intended to facilitate the transportation of cargoes to steamboats on the river, but were little used the greater proportion being transferred by drays. The chief point of congregation of the canal boats was at what was called the "Basin," now the intersection of Penn avenue and Eleventh street. Short lateral branches running from it in several directions to facilitate the boats mooring along side the warehouses of the transportation companies, which were immense wooden sheds. The canal crossed the Allegheny river on an aqueduct. At that time engineering was in its infancy, and when Nathan S. Roberts proposed to carry the water of the canal over the river by an aqueduct, with one hundred feet span, it was such a bold and novel proposition that the canal board refused to consider it.

Verily the world moves. It is now proposed by a Pittsburgh engineer to construct a bridge across the Hudson, with a span of 3,000 feet, and the bridge building establishments of the city have constructed many bridges across rivers with from 500 to 1,000 feet spans. However, the aqueduct was built and in its working was all it was contemplated it would be, and the basin as it was locally called became a crowded and busy place. There were some famous canal transportation lines organized, and men who have since become famous themselves were their originators and controllers. Among them was the "Union Line," (Samuel Rea, Henry Graff, and others,) "Clark & Thaw's Lines," (William Thaw, Thomas S. Clark,) "Kier & Jones' Lines," (Samuel Kier, B. F. Jones,) "The O'Connor Line," (Luke Taafe, James O'Connor.) The lines worked by Wm. Bingham & Co., (Wm. Bingham, who, with his whole family were afterwards lost at sea, the vessel on which they sailed having never been heard from after leaving port.) "Leech & Co.'s Lines," in which Geo. Black and Henry S. Lloyd, afterwards proprietors of the Kensington Rolling Mill, were clerks. Many others of the young men of that day who have since become Pittsburgh's most able business men, obtained their business training in the canal line offices. There was no idle time about the basin in those days except in the winter months, when the water was let out of the canal, and lessons of promptness, application and correctness were learned there, that bore good fruit in after years. During the years of its existence the Pennsylvania Canal was the great connecting link between the sea board and the western rivers. It was open to all who choose to run boats and pay the lockage.

Each boat or company employed its own men and paid its own tolls, and as quick delivery was a recommendation of the line but little time was lost in either loading, unloading, or towing the boats. The captain who could make the quickest trip was most in demand by the companies. Fifteen days was the usual time. The freight boats were drawn by three mules which were changed about every eight miles, and boats were run or laid up on Sundays as accorded with the owners views. Passenger boats were also run making the trip in three days. They were drawn by horses, and as there were several lines a race was not unfrequent on the long reaches, sometimes of several miles, in the pools were the small streams had been taken advantage of by damming. In this gentle excitement, for it was neither very dangerous or very rapid sport, the passengers participated, feeing the drivers to encite them in their efforts to keep ahead of the rival boat.

The passenger boats all started from what is now the corner of Penn avenue and Eleventh street, and it was in the summer months a favorite trip. The boats were internally arranged somewhat on the principal of the sleeping car of to-day, with adjustable berths for sleeping at nights, and through the day the cabin, which extended the full length of the boat, became a handsome parlor. The long flat deck of the boat made a fine promenade and was the favorite gathering place of the passengers in the cool of the morning and of the evening for a smoke, a chat, a song, and sometimes a dance. All felt it a courtesy to contribute to the enjoyment of the whole company. It was a leisurely, pleasant three days' trip, and on

moonlight nights with the boat gliding quietly along the still waters, through the shadows of the forest and hillside or amid the bright moonlight, that mode of travelling had a charm peculiarly its own. It was the custom where the canal made a long curve or bend for the helmsman to land the boat and allow the passengers to get off for a walk across the mountain or hill, round which the canal wound, meeting them on the other side. Those were pleasant rambles, and many a laughable adventure was had in the scrambles over rocks and through thickets, and acquaintanceships thus made that ripened into companionships that lasted through life. The leisurely progress of a canal boat would not suit the impatient fret of the travelers of to-day, who cannot wait until the railway car stops at the station before they begin to get off, no matter how persistently the courteous conductor repeats, "Passengers will please remain seated until the train stops."

There are, however, no doubt, many in Allegheny county who recall the pleasant days on the old Pennsylvania Canal would like to enjoy a three day canal trip once more. The captains of these boats were gentlemen in manner, and their own crews well behaved and courteous, but the crews of the freight boats were often cast in a rougher mold. Writing of this A. H. Reed, from whom an extract has previously been made, says, mentioning peculiar names of canal boats:

"The names were sometimes very amusing. Pat Collins once ran a boat on the Middle division that he called the Lightning Fanny. The Fanny part was the name of his girl. The Lightning part was hitched on because he once made a trip with his boat that beat the record. Collins didn't marry Fanny, though, but hitched himself for life to a soap-maker's widow. Then he changed the name of his boat to the Gliding Jane, after the widow. The cooks were the ornaments of the canal boats. They were usually big, fat, good natured Irish women. One of the boats used to have printed on its stern: 'Beauty and the Beast, Beauty missed the boat, but the cook's aboard.' Another boat, called the Spirit of the Spray, was marked with the legend: 'Four precious souls and one cook aboard.'

"The Bard of Erin was another boat that had a whack at the cook. The canallers always roared when they read just below the Bard's name the following: 'Capacity of boat 120 tons, capacity of cook, 2 quarts.'

"The canallers were hard drinkers; they always took three fingers of liquor and sometimes the thumb. Still, a toast that was popular was:

"Here's to glorious cold water,
We couldn't run the boat without her."

In 1857 the canal was sold by the State to the Pennsylvania Railroad Company. It is a question that has often been discussed as to whether this was not a legislative mistake; whether its enlargement, as was the policy of New York with its canal, would not have been better. Be that as it may, the railroad abolished the canal as they did the stage coach. Before the beginning of the century there were no stage-lines. Traveling was done by private conveyance or on horseback. In 1805 the first stage line between Pittsburgh and Philadelphia was started. The vehicles were covered Jersey wagons with springs. In summer the passengers were covered with dust, and in winter half frozen, and the use of them was attended with much discomfort. Passengers were frequently obliged to walk up hill, and occasionally helped pry the coach out of the mud with a fence rail. With the increase

of population the stage coach of some fifty years since came into use with its comfortable cushioned seats, its team of four fast horses, changed every ten miles, and its smart drivers. The roads had been improved to good turnpikes, and in 1820 the trip was made to Philadelphia in fifty hours, for which the price of a ticket was seventeen dollars.

There were several lines that ran out of Pittsburgh over the northern route to the upper counties of the State, over the Greensburg route to Philadelphia and the Somerset route to Cumberland and Baltimore.

As with the canal boat, there are pleasant remembrances of a three or four days' trip in a coach, although they had more discomforts than the boat. In the spring, summer and early autumn it was a delightful drive for those who could take occasional naps in the coach as it sped along. In the winter all travelers provided themselves with buffalo overshoes and robes, and with nine in a coach managed to make themselves cosy. The travel made it profitable to establish taverns along the route, where plentiful meals were served plainly cooked, but delicious in their cleanliness, and enjoyable from being served by the landlord's cheerful wife or laughing daughters. The seat with the driver on the top after the meal, for a smoke, was an envied privilege. The companionship into which the close packing of the nine seats inside the coach afforded brought out all the geniality of the several passengers, and humorous remarks, laughable stories, and often interesting talks on a wide range of subjects, for frequently eminent men were companion travelers. Then, as on the canal boats, rival lines incited races, either for the sport or to reach some desirable stopping place first. On such occasions "shad scales," as silver quarter dollars were called, rejoiced the drivers' hearts and replenished their pockets, a reward for skillful driving. Under these incentives the horses were urged to their utmost speed, and the drive, although at times verging on danger from the speed with which the coach was rushed down long hills, full of exhilaration.

The old stage coach times are days full of pleasant recollections to those who were travelers then, but as with the canal the railroad ended them, and with it came the fourth period of the overland transportation facilities of Allegheny county.

In 1848 was begun the Pittsburgh & Ohio Railroad, now the Pittsburgh, Fort Wayne & Chicago, which was finished to Beaver in July, 1851, and thence thereafter westward. In 1851 the Pittsburgh & Cleveland and Pittsburgh & Steubenville, now part of the St. Louis, Pittsburgh & Chicago Railroad, were organized. In 1852 the Pennsylvania Railroad was opened for travel from Pittsburgh to Philadelphia, and by 1860 the main lines to Cincinnati and Chicago were in operation. Thereafter the railroad facilities of Allegheny county continued to increase, until now twelve distinct roads center at Pittsburgh, six of which are strictly trunk lines, and the other by their comprehensive connection virtually so.

The railroad is the child of the day, and there needs no review of its past, as of the pack-horse, the Conestoga wagons, the stage coach and the canal boats, to

call forth reminiscences. There is, however, a reminiscent anecdote touching the running of locomotives over the mountains connected with the building of the Pennsylvania Railroad illustrative of their early building and their working now.

The road across the mountains was built in the face of adverse criticism from many leading civil engineers of the day, who regarded the plan as impracticable. While in charge of the construction of the mountain division Mr. J. Edgar Thomson, afterwards superintendent of the road, met at Hollidaysburg James Burns, of Lewiston, then State Superintendent of Public Works. The conversation that passed between them is thus related by Burns:

"I asked him how he expected to take the cars over the mountains. He said by locomotives. Then I saw the man was a fool. I thought I'd find out just how big a fool he was, so I asked him how long he expected a train to be in running from Pittsburgh to Philadelphia. 'Fifteen hours,' he said. Then I knew the man was a howling idiot and left him."

Whatever the city of Pittsburgh has gained in the past from her unrivalled water highways, and however much she may hope to acquire in the future under some comprehensive system of river improvements by the National Government, her present and her future is largely influenced by the facilities for railway transportation the city may possess.

Located midway between an empire of population on the east and an empire of people on the west, to both of which the products of Pittsburgh, and the consumption thereof, are requisites to their own commerce, and the city's facilities for railroad communication with either section is direct, comprehensive and well sustained. There is no city of the Union whose railway system so comprehensively grasps, in a day's travel, the three great cities and export ports of the nation. With equal directness and force Pittsburgh stretches out a giant hand to grasp the trade of the West; literally, as well as metaphorically, for the delineation of the western railway routes of the city on the map is strikingly similar to an outstretched hand.

Eastwardly by the PENNSYLVANIA RAILROAD to Philadelphia it attaches to New York and the North-east by the New Jersey railroads, and to Baltimore and the South by the Northern Central Railroad, which connects with the Pennsylvania Railroad at Harrisburg.

North-easterly by the ALLEGHENY VALLEY RAILROAD the great trunk lines of the lake routes are reached, and a second direct connection with New York obtained. South-westerly by the PITTSBURGH DIVISION OF THE BALTIMORE & OHIO RAILROAD a second direction is secured with Baltimore.

Thus, by her Eastern railways, two direct connections are available with New York, and two with Baltimore; while the admirable advantages of the Pennsylvania Railroad give every facility to reach Philadelphia as well as New York and Boston. There is no city where three so great and important cities concentrate by their lines of railroads, traversed in such few hours, upon one community, so advantageously situated to distribute by water or by rail to the West.

Westwardly by the PITTSBURGH, FT. WAYNE & CHICAGO RAILROAD to Chicago, it embraces in its connections the entire net-work of roads which cover the States of Ohio, Indiana and Illinois, and reaches by various roads through the States of Missouri and Iowa.

By the PITTSBURGH, CINCINNATI & ST. LOUIS RAILROAD not only is a second avenue to Chicago and the North-west secured, but a direct route to St. Louis, 140 miles shorter from the East than that by way of Buffalo and Cleveland. By this road a second and different connection is formed with the net of roads which so thoroughly intersect the States of Ohio, Indiana and Illinois, and the States beyond the Mississippi.

Northwardly by the CLEVELAND & PITTSBURGH RAILROAD the Pittsburgh railway system reaches the Lakes at Cleveland, and by the steamboat routes on them, with which this road forms close connections, the railroads of Chicago and Detroit, and thence westwardly. As a northern route this one is extremely valuable.

By the ERIE & PITTSBURGH RAILROAD another direct Northern route is had as well as a second connection with the great East and West Lake lines of railroad, giving yet another facility for reaching the East, as well as the West and North.

By the PITTSBURGH & LAKE ERIE another route is had to the North, Northwest and West and East through its connections with East and West lines, at its intersection therewith in Ohio, and also with the lakes, thus giving Pittsburgh access to the supply of the lake region by four distinct routes.

By the PITTSBURGH, VIRGINIA & CHARLESTON access is had towards the South along the south banks of the Monongahela, and by possible extension in future into Western Virginia, and thus into the great central South.

The WESTERN PENNSYLVANIA RAILROAD gives facilities along the north shore of the Allegheny, and an auxilliary connection east by way of the Pennsylvania Railroad.

The PITTSBURGH & WESTERN also gives facilities along the north bank of the Allegheny river, and in its future extensions or connections another route to the North-east.

The PITTSBURGH, MCKEESPORT & YOUGHIOGHENY furnishes a second route up the course of the Youghiogheny and to the Connellsville coke regions, and possibly, in the future, in its extensions, a third trunk line to the sea coast.

The value of the trunk lines to the growth of Pittsburgh, and their power of consumption of her products, is indicated by the population along their routes and the agricultural and manufacturing values contained in the counties through which they pass. By the census of 1880 there were in those counties—served by four main branches alone—4,268,919 inhabitants; a cash value of farms of \$1,221,383,473; a cash value of farm products, annually, \$189,634,059; a cash value of live stock, \$113,612,804. There were 27,764 manufacturing establishments, which consumed materials to the value of \$489,771.72, and produced articles to the amount of \$577,995,091.

To-day Pittsburgh originates more freight than any other city in the United States, except, perhaps, New York City.

Until 1864 such a thing as through freight was unknown to Pittsburgh shippers. Each railroad carried goods to the terminus of its line, where they had to be unloaded and reshipped on the next road. Each railroad company had its own freight depot, which were generally wide apart and the freight had to be wagoned between them. In this year, however, the Union Star freight line, founded principally through the efforts of Wm. Thaw, began to ship freight through over the Pennsylvania Central and the newly built Western lines.

A consideration of the consumptions, the purchasing power, the traffic importance, the transportations, the travel, the circulation of money, which these statistics represent, show forcibly the wealth and importance of the markets these four lines alone chain to Pittsburgh by their facilities, and the value of the lines in themselves as the transportation agents of all that this wealth, production and consumption represents.

It is the centrality of Pittsburgh's position on these lines, so briefly sketched, that renders this system of railways so valuable to her progress. By it an economy of time in the transit of goods is secured ; and, as before pointed out, her products need but travel half diameters to be distributed over a wide circle. All quarters of that circumference Pittsburgh's railway system markedly and admirably bisects ; and beyond the rim thereof, at the Mississippi, connects with the trans-Mississippi roads to all the wide markets beyond in the most direct manner.

Marching with rapid steps to the position of a metropolitan manufacturing center Pittsburgh has at her command a railway system equal to her demand for supplies of whatever nature, and to her distribution requirements, whatever may be the magnitude of her productions.

CHAPTER XVIII.

Financial Institutions.

A narrative of the financial institutions of Allegheny county in a succinct form that will embrace correct chronological and genealogical data is a difficult task. In attempting it many obstacles have arisen that may prevent its being given as thoroughly as was designed, not the least among these being the difficulty of obtaining from those who were supposed to be the most interested, a concession of such time as would be required to examine the archives of the various institutions. The indifference that prevails as to the past has elsewhere been noted, and the rapidity with which the business exactions of the present are destroying memories of past actors in the building up of the business interest of the county. It is said that the eyes of the old are turned backward, but the young ever look forward, and when the effort is made to collect in some general preservable shape the data relative to business institutions or firms whose origination is in the past, the active generations of to-day have forgotten, and the retired or retiring veterans are few. To hunt among musty papers of years past is a task to which neither their inclinations urge the actors of to-day, nor does their time permit, under the crowding pressure of so rapidly progressing a community as Pittsburgh, and especially has this been found the case among the financial institutions of the county. What has been gathered has been given, as some account of Allegheny county's record during its hundred years in that class of business, and for the reasons given even that is, perforce, confined to the briefest statements. It will be, however, sufficient to enable some historian in the future to make a fuller narrative.

The first bank in Pittsburgh was established January 1, 1804, in a stone building which stood on Second street between Ferry street and Chancery lane. It was a branch of the Bank of Pennsylvania, and was the first bank west of the Allegheny Mountains. John Wilkins was the first president of this branch and Thos. L. Wilson its first cashier. John Thaw, father of Wm. Thaw, vice president of the Pennsylvania Railroad, came from Philadelphia here as the first teller of this branch. In the board of directors were Ebenezer Denny, subsequently the first mayor of Pittsburgh, Presley Neville, Abram Kirkpatrick, Adamson Tannehill, George Stevenson and John Wilkins, Jr., all of whom had been officers in the Revolutionary Army. As president John Wilkins was succeeded by James O'Hara, identified with the earlier glass manufacturing in the city. Mr. O'Hara was the president at the time this bank was merged in the United States Bank in 1817, and the branch became the Office of Discounts and Deposits of the United States. James Corry being the cashier in 1833, he resigned to accept the cashiership of the Merchants and Manufacturers Bank, organized that year, and was succeeded by John Thaw. It continued to occupy the stone building until 1830, when it removed to the banking house now occupied by the Mechanics National Bank, where it remained until its dissolution from the expiration of the charter.

of the parent bank, when it was rechartered as a branch of the United States Bank of Pennsylvania in 1836, which continued for three or four years and failed from cotton speculations, a forerunner of others who came to a similar end from their officers being tempted to embark the capital of the bank in enterprises outside of its legitimate province of legitimate banking. There has not, it is believed, been a bank failure in the city where the officials have conscientiously guarded the interest of the bank in this respect.

The second bank, and perhaps justly to be styled the first bank at Pittsburgh, as it was organized here and its capital supplied by Pittsburgh merchants, was the Pittsburgh Manufacturing Company, which was organized in 1810, and did a banking and insurance business, beginning business in 1812 as a partnership. An application had been made for a charter, which was not obtained. In 1814, however, a charter was obtained, and the Pittsburgh Manufacturing Company was merged into the present Bank of Pittsburgh.

THE BANK OF PITTSBURGH was chartered in 1813-14, and organized for business on November 22, 1814, with the following board of directors: Wm. Wilkins, George Anshutz, Jr., Thomas Cromwell, Nicholas Cunningham, John Darragh, William Hays, William McCandless, James Morrison, John M. Snowden, Craig Ritchie, George Allison, James Brown and J. P. Skelton. On the 28th of November, 1814, Wm. Wilkins was chosen president, and Alexander Johnstone, Jr., cashier of the bank. The capital of the bank was nominally at this time \$600,000; of this only \$250,000 had been paid up to 1833, which in 1834 was increased to \$1,200,000.

Mr. Wilkins, who resigned November, 1819, was succeeded in the presidency by John Darragh, who was followed by John McDonald, and he by Wm. H. Denny, who, in April, 1835, was succeeded by John Graham. In 1866 Mr. Graham was succeeded in the presidency by John Harper, who entered the bank in 1832 as chief clerk, which position he retained until 1850, when he became assistant cashier; and on John Snyder's resignation in 1857, cashier, and on the retiring of Mr. Graham, in 1866, president, as above stated. This office he still fills, after fifty-six years of continuous service in the same institution, nearly three-fourths of the bank's existence, having filled all the official grades from clerk to president, being to-day the oldest bank officer in continuous service in the city. On Mr. Harper's succession to the presidency, Wm. Roseburg was elected in March, 1866, cashier, which position he still fills. John A. Harper being subsequently elected assistant cashier. The bank declared its first dividend of four per cent. on May 15, 1815, and has paid regular semi-annual dividends ever since, having paid up to May, 1888, one hundred and forty-six dividends, amounting to over \$6,000,000, and has a surplus of \$399,125.44. During the general suspension of specie payments in consequence of the Civil war it paid out in redemption of its notes and deposits \$1,375,000 in gold.

On August 2, 1814, the Farmers' and Mechanics' Bank of Pittsburgh was chartered with a capital of \$450,000, began business and was apparently prosperous.

John Scull, one of the proprietors of the *Gazette*, was president, and George Lucky, was its first cashier. He was succeeded by Morgan Neville as cashier. Morgan Neville was also one of the proprietors and, for a considerable period, editor of the *Gazette*. The bank was robbed on the night of April 6, 1818, by a couple of men named Pluymart and Emmons. In that robbery the gold medal awarded by Congress to Gen. Daniel Morgan for heroism at Cowpens was lost and has never been recovered. The credit of the bank was hopelessly shaken by the robbery and it finally resolved to wind up its affairs July 20, 1819, when it had only \$9000 in notes outstanding and \$118,000 in demands against solvent parties. It did nothing further as a bank than to carry out the purpose of this resolution. Morgan Neville resigned as its cashier November 29, 1819, having been elected Sheriff of Allegheny county, but continued as editor of the *Gazette*.

Emmons was subsequently captured but Pluymart escaped. Emmons told where the money was secreted, below Beaver on the Ohio road at a point afterwards known as Pluymart's Rock. Emmons went with his captors and showed where the money was hidden, and \$100,000 of the bank's notes and \$1,800 of specie was recovered. Emmons expressed surprise that there was so little specie, and said that Pluymart must have visited the place and carried off some of the money. Pluymart was afterwards captured in Ogdensburg, N. Y., with about \$5,000 on his person. He was sentenced to three years in the penitentiary, but subsequently escaped in company with a prisoner named Garrabrants. The robbers obtained entrance into the bank by stealing the key from the city watchman's box, where it was kept, while he was warming his feet at his stove. By this means they entered the bank several times, always hanging the key up in the box without disturbing the watchman. In this way they obtained the dimensions of all the keyholes by measurements, and were enabled to make the robbery unmolested, and without noise.

In 1818-19 what was called the City Bank, organized and opened for business in a house then owned by Wm. Robinson, Jr., where Wm. McCully & Co.'s glass warehouse now is, 18 and 20 Wood street. The president was the Rev. Robert Patterson, who kept a book store, Anthony Ernest, cashier. The bank made but one discount and then closed, the notes which it paid out were afterwards redeemed at the book store of the president. What was the cause of this sudden death of the institution does not appear. It may be presumed it was a bank mystery.

In 1830, or about that date, Geo. A. Cook opened a banking house on Fourth street about where the Farmers Deposit National Bank now stands, in connection with which was the firm of Cook & Cassett, dealing in real estate. The selling of lottery tickets was then an authorized business, and Mr. Cook made that a part of his business. He was succeeded, about 1837, by E. Sibbett & Co., then Sibbett & Jones, about 1840, afterwards S. Jones & Co., (Judge Samuel Jones, Michael Jones, John Jones.)

In 1821-2 the private banking house of N. Holmes & Sons was established. This old firm had its origin with James and Gordon Gilmore, who had a cloth house

in 1819, on Water st., with which they established a small banking business. They went to Cincinnati in or about 1819-20, where they engaged in the banking business and continued it until quite old. When he left Pittsburgh Nathaniel Holmes succeeded to the business, the firm of J. Gilmore & Co., at Cincinnati, being for many years a correspondent of N. Holmes & Sons. Nathaniel Holmes established his bank about 1821-2, and subsequently associating with him his son, Thos. R., and later Nathaniel, the firm became N. Holmes & Sons, under which style it still continues, there being a Nathaniel of the third generation now of the house. This private bank is the second oldest banking institution in the city, having been sixty-seven years in existence, passing from father to son in unbroken succession without interruption from any cause.

In 1833 the Merchants & Manufacturers Bank was organized, at which time it was chartered by the State. It began business in June, 1833, with a capital of \$600,000, the par value of the shares being \$50. The first board of directors were Michael Tiernan, Isaac Lightner, T. B. Dallas, Jacob Forsythe, Thomas S. Clark, Geo. A. Cook, Fred. Lorenz, Samuel Church, Thos. Scott, Francis G. Bailey, Samuel Smith, S. Fahnestock, and John H. Shoenberger.

The first president was Michael Tiernan, from June 4th, 1833, to April 10th, 1845, he dying on the day of the great fire. He was succeeded by Thos. Scott, April 14th, 1845, who served until November 26th, 1849, when he was succeeded by Francis G. Bailey November 26th, 1849, who served until November 25th, 1850, when he was succeeded by Thos. Scott from November 25th, 1850, until October 13th, 1857, and he by H. L. Bollman, from October 15th, 1857, to January 15th, 1873, and he by Robt. H. Hartley, from January 15th, 1873, to October 13th, 1875, when, he dying, was succeeded by Wm. Rea, who was succeeded by Reuben Miller, Jr., and he by E. M. Ferguson, now president.

The first cashier was James Corry who served from June 5th, 1833, until July 2d, 1836, when he was succeeded by Jesse Carothers, who served from July 2d, 1836, to February 1st, 1842, when he was succeeded by W. H. Denny, who served from February 1st, 1842, to May 10th, 1863, T. B. Dickson acting cashier from May 11th, 1863, to June 1st, 1863, at which latter date John Scott, Jr. was elected cashier and served until February 1st, 1874, when William A. Shaw was elected cashier on February 16th, 1874, and continues to hold the office. The bank has paid since its organization \$3,141,000 of dividends, and its surplus and undivided profits are \$103,000.

In 1836 the Exchange Bank was chartered by the Legislature of Pennsylvania, with a capital of \$1,000,000, and the first meeting of its board of directors was held May 18th, 1836. The first board of directors were, Wm. Robinson, Jr., Sylvanus Lathrop, James E. Ledlie, Geo. Wallace, Tobias Meyers, B. A. Fahnestock, Samuel P. Darlington, John Grier, John Freeman, W. G. Alexander, James W. Brown, Samuel Baird, Harvey Childs. It began business in a small store building on the north side of Second street, between Market and Ferry, but soon removed to its new building on Fifth avenue, near Wood street, where it continued business

for thirty-six years. In 1873 its present banking house was begun, and in 1874 it moved in. Wm. Robinson, Jr., was elected the first president of the bank. He served until the close of 1851, when he was succeeded by Thos. M. Howe, in 1852. On Mr. Howe retiring from the presidency, he continued a director until his death, being thirty-seven years in continuous connection with the bank in an official capacity. Mr. Howe was succeeded by James M. Murray, and John H. Shoenberger succeeded Mr. Murray. On Mr. Shoenberger resigning, Mark W. Watson, the present incumbent of the office, succeeded him.

The first cashier was John Foster, Jr., and on Mr. Foster resigning in 1839 Thos. M. Howe succeeded him, Mr. Howe resigning in 1852, having been elected president. James B. Murray was elected cashier.

On Mr. Howe retiring from the presidency of the bank Mr. Murray resigned to succeed him, and Henry M. Murray was elected cashier. Henry M. Murray resigned on November 30, 1869, at which date he was succeeded by Andrew Long, who is now cashier. On April 8th, 1865, the bank was chartered under the U. S. laws as a National Bank, and its title changed to the Exchange National Bank, and its capital is now \$1,200,000. The bank has paid since its organization as a National Bank \$3,655,000 of dividends. Its regular surplus is \$400,000; other profits, \$104,094. The par value of its stock is \$50 per share; its book value \$70, and its market value \$80.

In 1833 was organized the Pittsburgh Savings Fund Company, which was re-chartered as the Farmers Deposit Company in 1844.

The organization of the Pittsburgh Savings Fund Company, which thus became the nucleus of one of the leading financial institutions of the city, was effected by ten men paying in \$10 apiece as capital, and subsequently adding \$2 a week apiece. Their number soon swelled to fifty, but they were very particular as to who could be admitted, one black ball being sufficient to reject. The original ten members were James Fulton, who was the first president; James Anderson, the first secretary; Reuben Miller, Jr., the first treasurer; James Marshall, James Armstrong, Nathan Carlisle, Hugh Sweney, Robert Galway, Samuel George and Gabriel Adams.

The first banking house was on St. Clair street, now Sixth, at which time James McAuley was its first clerk or cashier, the bank having but one at that time. In May, 1841, the title of the bank was changed to the Farmers Deposit Bank and its place of business removed to 57 Fourth avenue, and Gabriel Adams elected president and Thompson Bell cashier. On May 13, 1845, James Marshall was elected president, which office he held until his death, when William Walker succeeded him. April 17, 1849, Thompson Bell resigned, and John Magoffin was elected his successor. The present site of the building was purchased in June, 1853, and an iron building erected. On June 25, 1857, the Farmers Deposit Bank relinquished its charter and organized with individual liability under the title of the Farmers Deposit Banking Company, re-electing the former president and cashier, and James Marshall, John Scott, John McDevitt, Samuel George, Wm. Walker, Thos. Mellon, Richard Floyd as directors.

On August 15, 1867, Mr. Magoffin resigned to accept the cashiership of the Iron City Bank, and A. P. McGrew was elected his successor. Mr. McGrew resigned August 15, 1857, and Robert Alexander George was chosen as his successor. On December 19, 1864, the bank was chartered as a National Bank. R. A. George dying in June, 1868, F. L. Stephenson was elected his successor. Mr. Stephenson resigned January 30, 1871, and Samuel George succeeded him, acting until January 14, 1880, at which time William Walker resigned the presidency and Samuel George was elected his successor, and T. H. Given elected to succeed Samuel George in the office of cashier. On Mr. George's death, Joseph Walton was elected to the presidency.

The bank has declared over \$1,500,000 of dividends since its organization as a National Bank; its capital is \$300,000, and its surplus \$600,000. The market value of its stock is \$400 on a par value of \$100. The bank, in 1886-7, erected a new banking house, which is one of the architectural ornaments of the city.

In 1841 Allen Kramer began the business of banking. He subsequently associated with him Edward Rahm, under the title of Kramer & Rahm, the banking house being at the corner of Wood and Third streets, and subsequently Florence Kramer was associated in the firm. The banking house was subsequently removed to Fifth avenue, to the building now occupied by the Central Bank, which finally succeeded to the business of the firm, about 1868.

In 1845 Joseph H. Hill and Wm. Curry established a banking house under the firm style of Hill & Curry, and began business at what is now No. 313 Wood street. Mr. Curry subsequently removing to Erie, Pa., the firm became Hill & Co., and in 1865, when the National Bank of Commerce was organized, the business of Hill & Co. was transferred to it, Joseph H. Hill becoming the first cashier of that bank.

In 1846 the firm of Hussey, Hanna & Co. began banking. This firm subsequently became Hanna, Hart & Co., (Joshua Hanna, Wm. K. Hart, C. P. Caughey,) and in 1862-3 were the agents at Pittsburgh for the sale of the first governmental bonds issued to meet the expenses of the Civil war. Their office was for many years at the N. W. corner of Wood street and Third avenue. The firm subsequently became Hart, Caughey & Co., under which style it ceased to exist.

About 1846 Warwick, Martin & Co. carried on banking business at the N. E. corner of Wood street and Third avenue, the company being a huge German by the name of —— Kahl, who was remarkable for wearing on his left thumb a very large seal ring, and also for some other eccentricities. The firm became involved in financial troubles and closed.

The intersection of Wood and Third street was in those days a favorite locality for banking houses.

In 1848 Cook & Harris opened a banking house, (Jacob W. Cook, —— Harris,) which subsequently became Harris & Co., and was carried on under that style in 1856, but later wound up its business.

In 1848 Wm. H. Williams began the banking business at the corner of Wood and Third street, which firm subsequently became Wm. H. Williams & Co. Through a robbery of its safe by burglars it became necessary for the banking firm to close up its business. The burglars rented the room above the banking house, and one Sunday leisurely cut through the floor to the top of the safe in the room below and then through the brick top of the vault, and carried off the funds. The money was never recovered.

About this date a firm styled Hoon & Sargent had a banking house at the corner of Sixth and Wood streets. The firm succumbed under financial difficulties, and the partners are some years since dead.

In 1850 George E. Arnold & Co. opened a banking house on Fourth street, a few doors from Wood. Subsequently Mr. Arnold closed the business and removed to Philadelphia.

In 1851 the firm of Patrick & Friend opened a banking house on the north-west corner of Wood street and Diamond alley. This firm subsequently became R. Patrick & Co., and removed to the corner of Wood and Fifth streets (now avenue), and subsequently to its present location, 52 Fifth avenue, having conducted a continuous and successful banking business for thirty-seven years, without lapse from any cause.

In 1851 O'Connor Bro. & Co. (James O'Connor, Hercules O'Connor,) began the banking business at No. 15 Wood street, which they continued until 1864, when James O'Connor and associates organized the Fourth National Bank, at which time the business of the banking house was discontinued.

In 1852 John Woods opened a banking house at 61 Fourth avenue, which ultimately succumbed to financial pressure.

About 1850 A. Wilkins & Co., (Alvin Wilkins) had a banking house in the old United States Bank building, Fourth avenue. In 1855 they sold their lease of the building to the Mechanics Bank and withdrew from the business a short time afterwards.

In 1848-50, William Larimer, Jr., formerly the proprietor of the Eagle Hotel, on Liberty street, opened a banking house at 68 Fourth street, (now avenue). In 1854 he failed with heavy loss to depositors, and went to Kansas, where he afterward became a member of the legislature of that State. While resident at Pittsburgh he was the president of the Youghiogheny Navigation Co., which after improving by locks and dams the river as far as West Newton fell into decay. Mr. Larimer was quite prominent in the Free Soil party, in its day, and was otherwise prominent. About the same time Hugh D. King, also opened a banking house on Fourth street a few doors east of Market street. He also succumbed to the local financial panic of 1854.

In 1854 Arthurs, Rodgers & Co. opened a banking house on the corner of Fourth avenue and Smithfield street, but the firm had but a short existence, becoming financially involved.

In 1855 Wm. A. Herron & Co. began the banking business at the corner of Sixth street (now avenue) and Wood street. Frank J. Herron, who, during the

civil war, obtained the rank of Major General for gallant conduct, was a member of this firm, which not being found profitable closed out.

About the same period Samuel McClean, who had previously been in the banking business on Diamond alley, embarked in the banking business. When he died some years after his son, Samuel R. McClean, succeeded him, and the firm style was changed to S. McClean & Co. The firm subsequently became involved and was closed out.

The firm of Ira B. McVay & Co. was the style of another banking firm of this period of private banks. Their banking house was at the corner of Fourth avenue and Smithfield street. After Ira B. McVay's death the firm was continued by his sons under the same business style. It also became involved after some years of success and went into the hands of assignees, Mr. McVay's sons going to the West, where they afterwards accepted positions as cashiers and presidents of Western banks, Charles B. returning to Pittsburgh, and is now secretary and treasurer of the Fidelity Title and Trust Company of Pittsburgh.

In the period ending about 1855, from about 1841, there seems to have been a furor at Pittsburgh for embarking in the banking business. Superinduced to some extent by the increasing business of the city, the more rapid circulation of money, and the limited number of regular chartered banks. The record of the successful management of these banking houses is not especially favorable to the financial acumen of those who meddle thus with finance. One reason of which was that many of the individuals had but a very limited or no training in the art of banking, and often with but limited capital, banking largely on their deposits.

In July, 1852, the Pittsburgh Trust Company was chartered and organized as a bank of discount and deposit, with a paid up capital of \$200,000, afterwards the First National Bank.

The First National Bank of Pittsburgh originated with the Fifth Ward Savings Bank, an institution projected by James Laughlin and carried into operation by him and associates. It had its office in Hays' oil mill, on Liberty street, near Twelfth. It was organized as a Savings Bank simply, with regular assessments, payable weekly. Mr. Laughlin was its president.

Some time about 1844-5 an association of business men obtained a charter for a bank called the Pittsburgh Trust and Savings Company. The books for subscription to its stock were advertised to be open on April 10, 1845. The great fire frustrated the enterprise, the most of the organizers being burned out and heavy losers by the fire.

The charter of the Pittsburgh Trust and Savings Company was purchased by the Fifth Ward Savings Bank, and on July 13, 1852, the Pittsburgh Trust Company was organized, with a capital of \$200,000, and on July 28, 1852, John D. Scully was elected actuary, or cashier, and James Laughlin president. The first board of directors were James Laughlin, Thomas Hays, B. F. Jones, John Lindsay, I. M. Pennock, Samuel Rea, William Bingham, William K. Nimick, James A. Hutchinson. In 1863 the Pittsburgh Trust Company applied for a charter un-

der the National Banking Act, with a capital of \$500,000. It was organized under that charter, with no change of president or cashier. This bank was the first in the United States to make application for a charter under the National Bank Act, and should have the credit of being the pioneer National Bank in the United States. At the time the bank made application for its charter there were no governmental forms prepared for that purpose. Those of the Pittsburgh Trust Company having for that reason experienced delays before completion, being sent back for some technical changes arising out of its being already a chartered institution. Through this delay four other banks in small towns obtained their charters before the First National Bank of Pittsburgh. Its application was, however, the first made to the Treasury Department at Washington, and it is entitled to be called the first National Bank of the United States as well as the First National Bank of Pittsburgh, and the county of Allegheny to the honor of the pioneer National Bank, as she is to the pioneer bank west of the Alleghenies.

When the Fifth Ward Savings Bank was absorbed in the Pittsburgh Trust Company it was moved down to Wood street, within two doors of its present location, corner of Wood street and Fifth avenue, where the bank subsequently erected its present banking house. There are some commercial historical facts connected with the plot of ground on which it stands. On June 24, 1786, John Penn and John Penn, Jr., deeded to John Crawford Lot 407, fronting on Fifth street, on the line of the corner lot, beginning 60 feet from the corner of Wood street and running west on Fifth avenue, and a depth of 240 feet to Virgin alley, for the consideration of £10 in Pennsylvania currency, about \$40. On February 9, 1790 John Crawford deeded Lot 407 to James O'Hara for £40, gold and silver. On March 15, 1806, James O'Hara deeded to William McCullough Lots 406 and 407, 60 feet east on Fifth avenue by 240 feet to Virgin alley, for the consideration of \$1,800. William McCullough deeded the lots to William Porter, the first iron manufacturer at Pittsburgh, noticed in the chapter on iron industries, in 1808, in which year William Porter died. The same piece of ground is now valued, without the buildings, at about \$2,000,000.

Shortly after the organization of the bank under its national charter Charles E. Speer was elected assistant cashier, which office he still fills, as does John D. Scully that of cashier, being the oldest cashier in continuous service in the city. Mr. James Laughlin died December 18, 1882, having been president of the institution from its origination as the Fifth Ward Savings Bank until his death, when Alexander Nimick succeeded him in the presidency of the First National Bank.

James Laughlin was born in County Down, Ireland, in 1806. His father was a farmer. Mr. Laughlin received his education at Belfast, and after a course of study returned home to assist his father on the farm. When he was of the age of 23 years the family decided to emigrate to the United States. The farm was sold and early in 1829 the family set sail. After a passage of forty-five days they landed at Baltimore. For about a year Mr. Laughlin was occupied in disposing of an invoice of queensware he had bought at Liverpool before sailing. The ven-

ture did not prove remunerative, and he came to Pittsburgh, where, with his brother, under the firm style of A. Laughlin & Co., he entered the provision business and established a branch house at Evansville. The partnership was dissolved in 1855. In 1855 James Laughlin embarked in the iron business with B. F. Jones, under the firm style of Jones & Laughlin, of which firm he was a member until his death. He organized the Fifth Ward Savings Bank, as before mentioned, was also the founder of the Eliza blast furnace of Laughlin & Company. He was one of the corporators of the Western Pennsylvania Deaf and Dumb Institute, and one of its directors until his death. He was one of the founders of the Pennsylvania Female College. Mr. Laughlin died on December 18th, 1882, mourned by all with whom he had ever had business relations. He was a good illustration of that Scotch-Irish population whose conservatism and yet persistent enterprise have been such effective factors in the building up of the industries and mercantile interest of Allegheny county.

The total dividends declared by the bank since its organization as a National bank amounts to \$1,689,250. Its surplus fund is \$150,000, and the undivided profits are \$38,947.31. The par value of its stock is \$100 a share, its market value \$165, and its book value \$150.

In 1853 the Citizens Deposit Bank was organized under the State laws and incorporated. This bank originated with the Citizens Savings Bank, organized in 1851 by Andrew McMasters, John Shipton, Francis Sellers, James Kelley, William Dawson and Capt. William Barker, who were the first board of directors. Its first president was William Dawson, and James Cooper the treasurer, who was afterwards succeeded by Samuel McClurkan as cashier. The bank had its office in the Masonic Building, Fifth avenue, where the capital stock was paid in installments. In 1853 the Savings Bank was chartered by the State as the Citizens Deposit Company, with a capital of \$200,000, Oliver Blackburn being chosen its first president, and E. D. Jones its cashier. In 1857 the name of the bank was changed by an Act of Legislature and privilege given to issue notes. In 1864 the bank was chartered under the United States laws as a National bank, and Francis Sellers was the first president under the new charter. He was succeeded in 1865 by George A. Berry, at this time president. E. D. Jones was succeeded by George T. Van Doren as cashier, and he by Jasper E. Brady. In 1870 R. K. Wilson became cashier, and still holds that office. In 1876 the capital stock was increased to \$800,000. The bank has paid \$1,724,500 of dividends since its organization as a National Bank, and has a surplus of \$175,000.

The Dollar Savings Bank was organized June, 1855. Geo. Albree was its first president and Chas A. Colton its first treasurer. Mr. Albree retired on September 10th, 1869, and was succeeded by James Herdman, who is now president. Mr. Colton died June 7th, 1881, when he was succeeded by J. B. D. Meeds, who had been secretary from July 10, 1865, as treasurer, and he was succeeded by J. Walker Fleniken. The bank opened for business July 19th, 1855, with thirty-nine good men as trustees and a deposit of fifty dollars the first day, two dollars the second,

and nothing the third. That is thirty-three years ago, and on June 1st, 1888, the total of the assets were \$12,455,731.23, and the number of depositors, 29,059, averaging \$399.96 each.

The Mechanics National Bank of the city of Pittsburgh was incorporated in 1855, and began business July 2d, with a capital of \$450,000. On December 24, 1864, it was chartered as a National Bank, with an increased capital of \$500,000.

The first thirteen members of this bank were George W. Cass, James A. Hutchinson, Robert Dalzell, W. B. Holmes, W. Butler, R. Miller, Jr., Alexander Speer, W. J. Morrison, John Herron, W. A. Smith, Alexander Gordon, Isaac Jones and James P. Hanna.

The first president of the Mechanics National Bank was Reuben Miller, Jr., elected July 2d, 1855, declining re-election November 22d, 1855. The second president was W. B. Holmes, elected November 22d, 1855, died May 7th, 1881. W. R. Thompson was then appointed, May 12th, 1881, on the resignation of whom, December 7th, 1881, William Carr, who still fills the office, was elected.

The first cashier was George D. McGrew, elected July 2d, 1855, but resigned June 14th, 1864. He was succeeded by John J. Martin, elected June 21st, 1864, who served until his death, on October 7th, 1875. W. R. Thompson was then elected, October 15th, 1875, and on his resignation to accept the presidency, May 12th, 1881, the fourth cashier, George J. Gorman, was elected, May 23d, 1881.

The total dividends paid since the organization as a National Bank are \$1,390,000; surplus, \$350,000; the book value of stock, \$90; market value, \$96; par value, \$50.

The Allegheny National Bank was incorporated August, 1857, and began business on Federal street, Allegheny City, with a capital of \$500,000.

The first board of directors was Hopewell Hepburn, J. H. Shoenberger, William Bagaley, David Campbell, Josiah King, James L. Graham, James Park, Jr., C. G. Hussey, George W. Cass, R. I. Leech, Jr., C. H. Paulson, William M. Edgar, P. Peterson.

The first president was Hopewell Hepburn, who was succeeded by William Bagaley, November 19th, 1860, and he by Joshua Rhodes, January 14th, 1867, and he by J. W. Cook, who died January, 1883. He was succeeded by W. M. McCandless on January 27th, 1883, who still continues in office.

The first cashier, Jacob W. Cook, was succeeded by Robert W. Mackey, September 18th, 1865, and he by W. McCandless on January 16th, 1871, and he by George A. Cook on January 27th, 1883, who died October 3d, 1887. He was succeeded by the present cashier, F. C. Hutchinson, October 8th, 1887.

The total dividends paid since the organization of the bank is \$1,252,500; surplus, \$160,000; book value of stock, \$69; market value, \$60.50.

The Iron City Bank, of Pittsburgh, was incorporated 1857 and began business August 27th, 1857, in Burke's building on Fourth avenue. It had a capital of \$400,000.

The first board of directors was,—James McAuley, J. L. Schwartz, James McCully, John Watt, Daniel Euwer, Andrew D. Smith, Richard Hays, Wm. Walker,

James Herdman, John Floyd, Thos. L. Shields, John B. Semple and Robert Dunlap, Jr.

The first president was James McAuley, who was succeeded upon his death, January 9th, 1871, by Richard Hays who came into office July 11th, 1871, and died October 2nd, 1877. He was succeeded by the present president, A. M. Byers, October 6th, 1877.

James McAuley was born in Mercer, Mercer county, about 1812 or 13, his father was a bricklayer, at which business Mr. McAuley worked for some time. He came to Pittsburgh about 1830-2 and became a clerk with James Gormly, who carried on the dry goods business on Market street. After the Savings Bank from which the Farmers Deposit Company originated was organized he became its clerk. He resigned that position to become a clerk with H. S. Spang & Son, the iron manufacturers, subsequently becoming a partner in the firm of Spang & Co. When the Iron City Bank was organized he was elected its president which office he held until his death. He was for many years a member of the City Councils, and chairman of its finance committee, also a member of the executive committee of the Committee of Public Safety, as elsewhere noted, during the war. Through that period he was active in many of the movements of the day, and assisted largely in a financial way in raising and equipping the 155th Regiment from Allegheny county. He was a director at various times in the local insurance companies of the city, and at all times gave liberally to the promotion of benevolent institutions, in many of which he took an active interest, and was in all respects a representative man, and a public spirited citizen.

The first cashier was John Magoffin who died July 12th, 1871 and was succeeded by George R. Duncan, who served from July 15th, 1871, to his death, which occurred September 29th, 1887, and was succeeded by Oliver Lemon, the present cashier.

The Iron City Bank Company became a national bank in 1864.

Total dividends paid since its organization \$1,283,000. Surplus \$850,000. Par value of shares \$50; book value of shares \$90. Dividends as State bank \$267,000. Dividends as National bank \$1,076,000 to April 30th, 1888. Total \$1,283,000.

The Second National Bank of Pittsburgh was organized as Iron City Trust Company, July 5th, 1859, but reorganized as Second National Bank December 11th, 1863. Began business at the same date. The first banking room being under the Academy of Music, Liberty street, with a capital of \$300,000.

The first board of directors was,—G. E. Warner, Washington McClintock, Henry McCullough, Jake Hill, John Heath, Wm. Siebert, Rob't Anderson, Alex. Forsythe, and John Moorhead.

The first president was Judge Griswold E. Warner who was succeeded by Geo. S. Head, and he by Wm. Cooper, who was succeeded by James H. Willock, the present president.

Robert C. Schmertz, Esq., the first cashier was succeeded successively by John E. Patterson, Chas. H. Riggs, Robert J. Stoney, Jas. H. Willock, and Thos. W. Welsh, Jr.

Since organization as a National bank it has paid forty-four dividends amounting to \$531,000. Surplus \$150,000. Par value of shares \$100 each. Market value \$165 each; book value the same. Undivided profits remaining \$40,379.26.

The Union National Bank of Pittsburgh, originally called the Union Banking Company, commenced to do a regular banking business September 1st, 1859, and continued up to February 1st, 1865, at which time it became the Union National Bank, which organized December, 1864, and commenced business February 1st, 1865, at the corner of Fourth avenue and Market street, with a capital of \$250,000.

The Union National Bank had its origination in what was styled the Diamond Savings Institution, which was projected about 1857 by a number of business men doing business in the Diamond and on Market street. The subscribers to the institution paid in a fixed sum weekly, and its office was at 74 Market street. About 1858-9 the original contributors to the Diamond Saving Institute associated themselves as the Union Banking Company, John R. McCune being elected president. On September 5, 1859, the first statement of the banking company was made, showing a capital of \$56,500, a deposit line of \$8,500, and earnings to the amount of \$2,800.

The German National Bank, organized from the German Trust and Saving Company, which was organized in 1860 for a savings bank, as a co-partnership, and had a capital of \$100,000 to be paid in installments.

The first board of directors were,—Augustus Hoeveler, Joseph Lang, Springer Harbaugh, Anthony Meyer, Christian Seibert, E. Hilleyers, John F. Havecotte, Adam Reineman, John S. Dilworth.

Augustus Hoeveler was president and John Stewart cashier. Mr. Hoeveler resigned and Adam Reineman succeeded him, for one year, when Mr. Hoeveler was again elected president and remained president until after the company was, in 1863, organized as the German National Bank, with a paid up capital of \$250,000. Par value of shares \$100.

The first board of directors of the German National Bank was composed of the same persons as in the German Trust and Savings Company.

In 1868 Mr. Hoeveler resigned, and Mr. Groetzinger was elected president, and October of the same year Joseph Laurent cashier. Both of these officers have continued in their respective positions until the present time.

The German Trust and Savings Company made regular semi-annual dividends of from four to five per cent., and had a surplus of about \$31,000 when it was merged into the German National Bank, which has paid since its organization \$932,287.72 of dividends, and has a surplus of \$390,000. The market value of the stock is \$310, on a par of \$100.

The Fifth Avenue Bank was organized in 1861, with a capital of \$100,000. E. W. Dithridge was its first president. He was succeeded by D. M. Armor, and he by H. F. White. The first cashier was F. C. Schenck. He was succeeded by F. C. Henry, and he by Julius F. Stark.

In 1864 the Union Banking Company was chartered as a National Bank, with a capital of \$000,000.

The first board of directors was John R. McCune, Joseph Horne, John Wilson, John Marshall, Jared M. Brush, Charles Barchfield, Alex. G. Cubbage, C. Harrison Love, Joseph Kirkpatrick; the former officers being retained.

John R. McCune, the first president, continued so until his death, January 31st, 1888, when he was succeeded by Robert S. Smith.

John R. McCune was born June 11, 1826, in Beaver county, and he came when but about twelve years of age to Pittsburgh, and entered the employ of William Young, who kept a leather store on Diamond alley, as an errand boy. He remained with Mr. Young until manhood, when Mr. McCune, associating with him James B. Young, purchased the business from William Young, and began the leather business on his own account. He subsequently removed to Liberty street, where he carried on the business until he was elected president of the bank. He was at one time a partner in the firm of Thompson, Hanna & McCune, a special firm organized to deal in oil in the early days of the petroleum excitement, for a limited period. He represented the Fourth ward of the city of Pittsburgh in Councils for a number of years, and was on the Finance Committee of that body. He was also an active member of the Executive Committee of the Committee of Public Safety during the war, and prominent in all the public movements of the day. After entering upon his duties as president of the bank he devoted all his time and energies to its success, although he was frequently called upon to take active part in public movements, where his recognized ability made it desirable to have his services. These he unhesitatingly always gave with cheerfulness, and acted with the same energy that he at all times had used in his own private business and as a bank official. His judgment and advice was often sought in the financial difficulties and commercial ventures of his fellow citizens, and was always cheerfully and honestly given. His death was looked upon as a loss to the community, as his life had been a benefit.

Robert S. Smith was the first cashier, and was succeeded by Chas. F. Dean on Mr. Smith resigning to accept the presidency.

The total dividends paid as a National Bank were \$152,500, the surplus being \$500,000, with market value at \$300 per share, the par value being \$100.

The Real Estate Savings Bank, limited, was incorporated the 12th day of April, 1862, as the Real Estate Savings Institution, with Thomas M. Howe, Isaac Jones, Jacob Painter, J. K. Moorhead, Harvey Childs, William H. Smith, W. B. Copeland, C. G. Hussey and Nicholas Voegty (all now deceased except C. G. Hussey) as incorporators.

August 22, 1866, the name was changed by Act of the Legislature to the Real Estate Savings Bank—bank for savings.

The funds of this bank are loaned on real estate, United States and State securities. It opened for business on Tuesday, the 6th day of May, 1862, at their office, No. 63 Fourth street, now Fourth avenue, and continued there until April, 1872, when it removed to the corner of Smithfield street and Fourth avenue.

Isaac Jones was elected president on its organization, and served until his death, December 28, 1878, a period of over sixteen years. He was succeeded by

James H. Hopkins, who held the office until November 26th, 1884, when he resigned, and was succeeded by Jas. S. McCord, the present chairman.

A. A. Carrier, the first secretary and treasurer, held the office until his death, November 2, 1869, and was succeeded by his brother, S. S. Carrier, who resigned on January 16th, 1871, whereupon George H. Holtzman was elected, and served until his removal from the city, September 1st, 1876, when he resigned, and Chas. R. Fenderick was appointed, and holds the position at the present time.

December 31st, 1885, it reorganized as the Real Estate Savings Bank, limited, with a paid up capital of \$100,000, and has now, after having paid handsome dividends to the shareholders, a contingent fund of over \$30,000.

The Pittsburgh Bank for Savings originated with the Dime Savings Institution, which was chartered by the Legislature of the State of Pennsylvania April 11th, 1862. The bank organized by the election of the following board of trustees: President, James Park, Jr.; vice presidents, W. H. Smith, J. F. Jennings, H. F. Rudd, A. Reineman, T. D. Messler, T. S. Blair, Joshua Rhodes, J. Stuckrath, F. Sellers, H. Lloyd, Alex. Bradley, A. Slack; trustees, Josiah King, Jos. Dilworth, R. D. Cochran, A. S. Bell, W. H. Phelps, S. H. Hartman, G. B. Jones, J. W. Baxter, J. M. Tiernan, S. S. Fowler, R. J. Anderson, C. H. Wolff, F. Rahm, B. F. Jones, D. E. McKinley, D. M. Long, W. A. Reed, W. Ihmsen, C. Zug, C. W. Ricketson, R. C. Schmertz, C. B. Herron, J. W. Woodwell; secretary and treasurer, D. E. McKinley.

The bank was intended by its originators to encourage the habit of saving trifling sums among the laboring population. The depositors' books of the institution opened May 1st, 1862, and the first day's deposits was \$100.35. The institution worked successfully for three years, when a supplement was obtained by which the title of the institution was changed to the Pittsburgh Bank for Savings, and the following amendment made to its original charter :

"SEC. 2. That, for the greater security of depositors in the said institution, it is hereby enacted that a capital stock shall be created, to consist of seventy-five thousand dollars, to be divided into fifteen shares of five thousand dollars each; that each of the corporators shall be the owner of one share, the said capital to be paid in or secured to be paid by the several corporators, and to be always liable for the payment to the depositors of the principal and accrued interest thereon."

At the election for officers the following board and officers were elected: President, Geo. A. Berry; vice presidents, Jas. Park, Jr., S. H. Hartman; secretary and treasurer, D. E. McKinley; trustees, Alex. Bradley, Jno. Scott, G. Follansbee, Christopher Zug, A. S. Bell, Jas. L. Graham, Jno. S. Dilworth, W. K. Nimick, R. C. Schmertz, Frank Rahm, Joshua Rhodes. At the same time a capital stock of \$75,000 was created.

On May 6th, 1876, D. McKinley resigned the office of Secretary and treasurer and Chas. G. Milnor, who had been chief bookkeeper, was elected to succeed him . and has occupied the position ever since, and D. W. Jones was elected as chief bookkeeper. James Park dying, he was succeeded by Alexander Bradley.

On June 30th, 1862, a statement of the assets of the bank showed \$3,264.10. Twenty years afterwards, on June 30th, 1886, the statement showed \$1,163,906.61; and July, 1888, they were \$1,795,162. They have paid depositors since its organization \$740,899 of accrued interest on deposits. The banking capital, provided for in the supplement to the charter quoted above, has been supplemented by a surplus of \$75,000 and undivided profits of \$25,000.

The First National Bank of Allegheny, Pa., was incorporated December 3d, 1863, and organized January 1st, 1864. Its began business January, 1864, with a capital of \$350,000. It first banking house was at 110 Federal street, and the first board of directors was composed of T. H. Nevin, C. C. Boyle, R. H. Davis, Arthur Hobson, D. N. White, John Thompson, Wm. Harbaugh, Henry Gerwig, John Dean.

The first president, T. H. Nevin, who died April 30, 1884, was succeeded by the present incumbent, James McCutcheon, who was elected May 6th, 1884.

Theodore H. Nevin was born 1815, and was first employed as a clerk in the drug store of Wm. Mackeown. In 1841 he established the white lead business in Allegheny City under the firm style of T. H. Nevin & Co. He was prominently identified with the management of the Western State Penitentiary, as president of the board, and with the Western Theological Seminary, of which he was treasurer; he was also prominent in many of the public enterprises of the day, and contributor to many public charities and benevolent institutions.

There have been but two cashiers, John P. Kramer, who died December, 1884, and was succeeded by the present cashier, E. R. Kramer. Total value of dividends paid, \$915,500, book value of stock being \$140 and market value \$150, par value \$100; surplus, \$100,000.

On December 31st, 1863, was incorporated the Tradesmens National Bank, at the corner of Wood street and Second avenue, with a capital of \$400,000, \$100 per share. The first board of directors were Alexander Bradley, W. M. Faber, Jas. M. Knap, Jas. Frazier, David E. Park, W. H. Forsythe, Wm. F. McKee, Wm. Van Kirk, Samuel M. Kier.

The first president was Alexander Bradley, who still continues in office.

The first cashier was George Van Doren, who resigned and was succeeded by Cyrus Clarke, Jr., who was succeeded by Ross W. Drum, the present cashier, in January, 1883.

The total dividends paid since the organization of the bank is \$840,000, the surplus fund \$400,000, the market value of stock being \$220.

The Pittsburgh National Bank of Commerce was organized in 1864, being in part the successor of the firm of Hill & Co., whose business the bank purchased previous to its organization. The first board of directors was J. T. Colvin, H. C. Frick, Chas. Lockhart, J. N. Anderson, J. W. Mellon, Wm. Pickersgill, Jr., Samuel S. Brown, J. W. Arrott, P. C. Knox.

The first president was Alfred Patterson, on his death in 1878, Joseph H. Hill became president, and he was succeeded at his death, on August 16th, 1884, by J. T. Colvin.

Joseph H. Hill the first cashier resigning to accept the presidency, was succeeded by C. W. Wade, who still fills that office.

This bank has a capital of \$500,000, with a surplus of \$400,000; par value of stock being \$100 each, market value \$204. In the 24 years of its existence this bank has paid dividends up to July 1st, of \$997,500.

The Peoples National Bank of Pittsburgh was organized December 8th, 1864, and began business the same date, with a capital of \$1,000,000, the first banking house being at the corner of First and Wood streets, and the present banking house at No. 409 Wood street. The charter of this bank was extended in 1884. First board of directors: Samuel Rea, Barcley Preston, James I. Bennett, J. Brunot, B. F. Jones, B. H. Painter, George Black, John W. Chalfant, D. Richey, George W. Hailman, R. C. Gray. The first president was Samuel Rea, who served from the date of the organization until he was succeeded by Barcley Preston, who was succeeded in 1887 by Richard C. Grey, who served until 1888, when the present president, John W. Chalfant, succeeded him.

Samuel Rea was born in Franklin county, near Chambersburg, in 1808-9. At the age of twenty-one or twenty-two he took charge of the Mount Alto Furnace, and subsequently became manager of Dr. Peter Shoenberger's Maria Forges. In 1837 he came to Pittsburgh and engaged in the canal transportation business, in what was known as the Union Line. While prosecuting this business he became engaged in the iron commission business, and also about the same time in the coal business. Subsequently, after the canal had been sold to the Pennsylvania Railroad Company, he was elected secretary of the Citizens Insurance Company, and on the death of Mr. Bagaley succeeded him in the presidency. This position he resigned to become the first president of the Peoples National Bank, and resigning that office, was subsequently elected, shortly before his death, the first treasurer of the Pittsburgh & Lake Erie Railroad. He died in 1881 or 1882.

There have been only two cashiers, the first being F. M. Gordon, who was succeeded on December 15th, 1883, by Thomas P. Day, who still continues to hold office.

The par value of shares is \$100; the surplus, \$350,000; the total earnings above losses and expenses are \$2,073,294.57; the total dividends being \$1,680,000.

On February 27th, 1864, was incorporated the Third National Bank of Pittsburgh, which began business March 7th, 1864, at a temporary location, north-east corner of Wood street and Virgin alley. Its original capital was \$300,000, which was increased on May 10th, 1864, to \$400,000, and October 31, 1866, to \$500,000.

The first board of directors were Adam Reineman, Louis Morgenstern, F. H. Eaton, William E. Schmertz, Joseph Able, A. S. Bell, August Hartje, Charles Meyran, David Ritchie.

The first president was Adam Reineman, until January 10th, 1865, when he was succeeded by W. E. Schmertz, who is still in office.

The first cashier (*pro tem.*) was Robert C. Schmertz, who was succeeded on March 28th, 1864, by John B. Livingston, who resigned on January 16th, 1871, and was succeeded by William Steinmeyer, who is still in office.

Up to May, 1888, forty-eight semi-annual dividends have been paid since organization, aggregating 237 per cent. on the capital, and amounting to \$1,156,000. The surplus May, 1888, was \$243,000.

The Fourth National Bank of Pittsburgh was incorporated May 20th, 1864, beginning business May 24th, 1864, at their first banking house, on Market street, between Third and Fourth.

The first board was James O'Connor, James M. Bailey, John M. Horner, D. M. Smith, John F. Herron, W. W. Ball, N. J. Bigley, William Vankirk, Thomas Smith.

The first president was James O'Connor, who resigned June 14th, 1865, and was succeeded by Thomas Donnelly on June 14th, 1865, who for many years was an attorney in the firm of Donnelly & Wills. He died April 15th, 1886, and was succeeded by the president now in office, James M. Bailey.

Allen Dunn was elected cashier *pro tem.* May 9th, 1864, and on June 20th, 1864, S. D. Herron was elected cashier. He resigned March 26th, 1865. Allen Dunn was subsequently appointed cashier. June 14th, 1865, Butler Ward was appointed cashier. He was succeeded by D. Leet Wilson, who was elected January 17th, 1866, and took charge February 1st, 1866, and was succeeded by S. D. Herron, who was elected January 23d, 1868, taking charge February 20th, 1868, being still cashier.

The total dividends paid amount to \$529,000, the surplus being \$61,568, with a capital of \$300,000.

The First National Bank of Birmingham was incorporated in 1865, and began business the same year in Pittsburgh, South Side. The present board of directors are H. Sellers McKee, Jos. Watson, A. B. Stevenson, Daniel McKee, Wm. B. Wolfe, Jas. Rahe, Daniel Berg. No information given as to first board of directors.

Thos. McKee was first president and was succeeded successively by B. A. Wolfe, A. B. Stevenson, H. Sellers McKee, who is the present incumbent. The first cashier was B. A. Wolfe who was succeeded by the present cashier, John P. Beech.

The capital of this bank is \$100,000, with surplus of \$100,000; par value being \$100, and market value \$210.

The Second National Bank of Allegheny commenced business April, 1865, and has a capital of \$150,000. Its first board of directors was Nicholas Voegly, Jr., Lauchlan McIntosh, Hugh McNeil, Adolph Groetzinger, William Smith, Jacob Kopp, John Voegly, Jr., James Lockhart, John Brown, Jr.

John Brown, Jr., its first president, died August 30th, 1873, and was succeeded by Jas. Lockhart, appointed to fill his place September 8th, 1873. He was succeeded by J. N. Davidson, appointed January 10th, 1884, which office he still continues to hold. J. N. Davidson was appointed cashier March 27th, 1865, continuing as such until appointed president January 10th, 1884. The present cashier, A. S. Cameron, was appointed January 10th, 1884.

The total amount of dividends paid to date is \$375,000, the bank never having passed a dividend. The book value of this stock is \$170, and market value \$180. Surplus, \$75,000, and profits amount to \$29,000.

The Peoples Savings Bank of Pittsburgh was incorporated April 17, 1866, by Act of Legislature. The board of trustees was Hon. Thos. Mellon, Wm. H. Gormly, James Lippincott, George M. Petty, William A. Herron, William Rea, E. P. Jones, Thomas K. Petty, A. L. Pearson.

First office, (opened for subscriptions of stock,) No. 13 St. Clair street, and first banking house, No. 77 Fourth street, (now Fourth avenue.) The first president was Hon. Thos. Mellon, who resigned September 12, 1866; he was succeeded by James I. Bennett, who resigned Oct. 11th, 1866, and was succeeded by Henry Lloyd, who remained in office until his death, February 12, 1879. Henry Lloyd was born in Huntington county, Pa., December 15th, 1817. He received a common school education, and at an early age obtained a situation in the commission house of D. Leech & Co., where he continued for a number of years. In 1854, in association with George Black, he purchased an interest in the Kensington Rolling Mills, and the works were put in operation under the style of Miller, Lloyd & Black. In 1857 Henry Lloyd and George Black bought out the other parties in interest, and the firm became Lloyd & Black. The firm passed through various changes noted in the chapter on the iron industries of the county. Mr. Lloyd was also president of the Pittsburgh Insurance Co., and, as previously noted, president of the Peoples Savings Bank. He was for years a director of the Merchants and Manufacturers Bank, also president of the Safe Deposit Co. In 1868 he was elected a member of the Councils of the city of Pittsburgh, and was re-elected for several terms. He was a trustee of the Western Theological Seminary, also of the Washington and Jefferson College, and a director of the American Sunday School Union. He was an eminently successful man, and died February 12, 1879, modest and unassuming in all the positions he filled, he steadily held the esteem and confidence of his associates. He virtually built the Bellefield Presbyterian Church, giving the ground and \$15,000 of the \$20,000 that was required to build it. At all times generously but judiciously liberal, calls for any form of suffering were never unheeded. In the memories of the business men of Allegheny county, Henry Lloyd will ever have an honored place. Mr. Lloyd was succeeded by William Rea, now the president of the institution.

The first treasurer was Thos. K. Petty, who resigned September 10th, 1866.

The first secretary was George M. Petty, who resigned September 12th, 1866. They were succeeded by Sidney F. Von Bonnhorst, who was elected secretary and treasurer September 12th, 1866, and remained in office until his death, July 23d, 1887. He was succeeded by N. G. Von Bonnhorst, (son of Sidney F.,) who was elected secretary and treasurer August 1st, 1887.

Sidney Francis Von Bonnhorst was born at Hamilton Hall, Mifflin township, Allegheny county, September 17, 1814. He was a student at the Western University. His first business employment was with John D. Davis, who carried on a commission business on Water street, as a clerk when about sixteen years of age. He left Mr. Davis to enter the employ of Henry F. Schweppe, a prominent German merchant of that period, and afterward was interested with McVay, Hanna

& Co., in the forwarding business. Subsequently he was a partner with William Eichbaum and with James R. Murphy in the wool business. Previous to this he was book keeper in the Branch Bank of the United States at Pittsburgh, and was made cashier of the branch at New Brighton, for the purpose of winding that branch up after the failure of the branch at Pittsburgh. About 1854 he was made secretary and treasurer of the Pittsburgh & Steubenville and also of the Chartiers Valley railroads which were at that time organized. In 1861 he was appointed portmaster at Pittsburgh by Abraham Lincoln, which office he held until early in 1866. During 1866 he was elected secretary and treasurer of the Peoples Savings Bank, and in 1867 was elected secretary and treasurer of the Pittsburgh Safe Deposit Company, which position he held until 1874 when he concentrated his time and energy on the business of the Peoples Saving Company. He was also manager of the Pittsburgh Clearing House for several years.

The record is one of a busy life and of responsible duties performed with arduous care.

The capital stock of the bank is \$300,000 and its surplus fund \$105,000. It has declared dividends on its stock since its organization of \$497,751.50. The par value of its stock is \$100 a share, its book value \$135, and its market value \$160. The total deposits on July 31, 1888, were \$1,638,573.43.

Lawrence Bank was established in 1866 as the Lawrence Savings Bank, in which the subscribers began to pay in stock in the fall of 1865, at the rate of 25 cents per share a week on 25 dollars shares. The bank opened for business on January 1st, 1866, when W. W. Young was elected as cashier and Samuel M. Kier president. The bank continued as an individual liability bank until February, 1873, when it was incorporated as a State bank with a capital of \$80,000, with W. W. Young as president, he having been elected to fill that office on November 7th, 1870, which office he still continues to hold.

At the time of its incorporation as a State bank the par values of the shares were raised to \$50. John Hoerr was elected cashier, which office he still holds. The total amount of dividends paid since organization as a State bank is \$76,457.25. Par value being \$50, market value \$50, with a surplus of \$50,000.

The Pittsburgh Safe Deposit Company was chartered in January, 1867, with a capital of \$250,000. It opened September 1st, 1869, Wm. Phillips being the first president, and on his death he was succeeded by Henry Lloyd, and on his death by A. Garrison. The first secretary was S. F. Von Bonnhorst, who resigning, in 1874, was succeeded by Wm. Little, who on his death was succeeded by — Howe.

The Workingmens Savings Bank is an individual liability bank, and was organized March, 1869, and commenced business May 1st, 1869, at No. 230 Ohio street, Allegheny City, with a capital of \$50,000, paid in installments through the first year.

First board of directors: John Joseph Hermann, Charles B. Easley, G. Meyer, Fred. Kochendorfer, John S. Clark, J. P. Wacker, John Stephan, C. Klicker, G. P. Beilstein.

The first president was John J. Hermann, who, upon his resignation in 1877, was succeeded by the present incumbent, John A. Hermann.

The first cashier, James Wettach, served until 1872, when, resigning, he was succeeded by G. W. Walter, who resigned in 1879. C. W. Dahlinger succeeded him, and, resigning in 1883, was succeeded by the present cashier, John L. Buerkle.

Total dividends, \$78,000; surplus, \$52,000; par value of stock, \$50; and market value, \$55.

The Central Bank was organized in 1868, having succeeded to the business of Kramer & Rahm, bankers, all the members of that firm being now deceased. The bank was incorporated under the State laws in 1875. The present directors are Thomas Fawcett, Julius Adler, J. F. Denniston, James Wilson, P. H. Hacke, John E. Ridall, D. P. Reighard, S. S. Holland, Frank P. Bell.

Mr. Thomas Fawcett is president, having been such since its organization.

Captain Madison Bailey, one of the pioneers in steamboating on Western waters, was the vice president until his death, in 1887.

James W. Davitt was the first cashier. He died in 1876, and was succeeded by M. Hunnings, the present cashier.

The capital stock is \$100,000; present surplus, \$30,000. It has paid in dividends \$138,000.

The Masonic Bank was incorporated May 8th; 1869; capital, \$200,000. The first banking house was situated at 527 Smithfield street, having owned and occupied the building since.

The first board of directors were C. W. Batchelor, G. C. Shidle, James Fuiley, John Chislett, W. F. Lang, Robert Pitcairn, C. F. Wells, Alfred Slack, Wm. Scott.

C. W. Batchelor was first president, and was succeeded in 1884 by G. C. Shidle, the present incumbent of the office.

George C. McLean was elected cashier at the first organization of the board of directors, which position he filled until his death, April 14th, 1880, when he was succeeded by his son, Charles B. McLean, the present cashier.

The bank has paid in dividends since its organization \$196,000; surplus and undivided profits, \$56,000; the value of the stock is \$62.50 per share; market value, \$55 per share.

The banking house of T. Mellon & Sons was established by Thomas Mellon in 1869, who associated with him his sons, under the above firm style. They opened for business at 145 (old No.) Smithfield street, where they continued until 1872, when what is known as Mellon's Building was completed, when the bank removed to it.

The American Bank was organized in 1869 as an individual liability bank with a capital of \$200,000. The first president was John Lloyd, on his death he was succeeded by Wm. Floyd, who had been the first cashier, and he was succeeded in the cashiership by Thos. Floyd. The bank closed its doors in 1887, and went into liquidation.

The Enterprise Bank of Allegheny was organized in 1870, and is a savings bank, whose capital is being paid up by installments. In 1886 there was paid up capital of over \$72,000. Wm. Dilworth, Jr., was the first president. He was succeeded by Thomas J. Graff. F. P. Holmes was the first cashier. He was succeeded by C. Steffen, Jr.

The International Bank of Pittsburgh was organized in 1870, at the corner of Liberty and Market streets, the stockholders being individually liable, and having a capital of \$100,000—authorized. It discontinued business in 1873, first paying all depositors in full.

The first board of directors was John Watt, W. H. McPherson, S. R. McClean, W. W. McGregor, Stephen Mercer, William Neeb, C. H. Love, Thomas Booth, J. C. Anderson, William McKee.

The first president was John Watt, who was succeeded by W. H. McPherson. The cashier was F. E. Moore.

Cause of discontinuance being the panic of 1873, making its business unprofitable and there being so many banks in Pittsburgh,

The Commercial Banking Company was organized February 21st, 1870, at the banking house, 92 Fourth avenue. Capital, \$200,000, with shares \$50 each. W. H. Everson, president; W. C. Macrum, cashier; board of directors, W. H. Everson, Wm. O. Hughart, Jacob Klee, B. F. Wilson, John Lindsay, D. S. Macrum, A. H. English, Alexander Bates.

This company was reorganized as the Marine National Bank, under the national banking law, March 13th, 1875, and commenced business March 31st, 1875, at the banking house, corner of Third avenue and Smithfield street, with a capital of \$200,000, \$100 per share; increased to \$230,000 on April 23, 1883.

The first board of directors was: W. H. Everson, president; B. F. Wilson, vice president; W. C. Macrum, cashier; D. W. C. Bidwell, Wm. Fraud, Andrew Fulton, E. B. Godfrey, Jacob Klee, E. A. Montooth, Lucius Osgood, Wm. W. O'Neil, John O. Phillips, J. D. Risher and J. C. Sneathen.

W. H. Everson, the first president, resigned July 7th, 1887, and was succeeded by Wm. W. O'Neil on the same date.

The total dividends paid amount to \$198,129.50, the surplus being \$23,366, and the market value \$102 per share.

The Germania Savings Bank, of Pittsburgh, was organized at Pittsburgh in April, 1870.

First directors were: C. Meyran, J. F. Havekotte, A. Steinmeyer, G. Schleiter, Adam Reineman, Jos. Abel, Jas. K. Kerr, C. Barchfeld, Jos. Morganstern.

The president from the time of its organization has been C. Meyran.

The first vice president was C. Barchfeld, who was succeeded in May, 1875, by Jos. Abel.

C. M. Seibert was the first secretary and treasurer, and was succeeded on March 1st, 1878, by Chas. Seibert.

The firm has a capital of \$150,000 and a surplus of \$40,000. Number of depositors, 2,800.

The German Savings and Deposit Bank, of Birmingham, was incorporated January 23d, 1871, and began business in their first banking house, 1407 Carson street, on March 4th, 1871, their capital being \$70,000, afterwards increased to \$100,000 July 28th, 1886.

The first board of directors were: John P. Heisel, Chas. Foster, Bernard Krugh, Chas. Espy, J. Eitemiller, Geo. Engelking, Frederick Maul, J. Och, Adam France, L. Kishmeisen, Ernest Rohrkaste, Geo. N. Monro, R. S. Clark.

The first president was John Heisel, who resigned, and was succeeded by Bernard Krugh in 1875, who was succeeded by John B. Lutz, the present president.

The first cashier, E. J. Scholze, was elected January 1st, 1871, and resigned April 3d, 1885, when he was succeeded by the present cashier, J. F. Erny, May 1st, 1888.

They have paid dividends on the capital stock from 1872 of \$85,534, and on that of July, 1886, \$25,000, making a total of dividends paid of \$110,534.

Surplus, \$70,000; book value of stock, \$75; market value, no transfers.

The Freehold Bank was originally incorporated under the laws of Pennsylvania as the Freehold Bank and Building Association, March 3rd, 1870, the capital stock being \$200,000. Par value of shares \$50.

The first board of directors was,—Edward House, James S. Craft, Thos. Steel, Wm. Phillips, Robert W. Mackey, Jared M. Brush, Thos. W. Davis.

The first president was Edward House, who still holds that office. The first treasurer and secretary was Thomas Steel, and J. P. Speer cashier. The title of the bank was subsequently changed to the Freehold Bank, the president and cashier remaining the same until 1878 when J. P. Speer being elected vice president, Louis Witmer was elected cashier. In 1884, John Steel was elected his successor. The bank has paid \$186,000 of dividends since its organization.

The Artizans Bank was organized in 1870 under the State laws with an authorized capital of \$300,000. Wm. H. Smith was its first president and Julius F. Stark its first cashier, until it was discontinued, the depositors being paid off and the stock canceled.

The United Bank was established in 1871. N. P. Sawyer was its first president, and Alex. Guthrie its first cashier. The capital was \$200,000. Up to 1876 it had paid \$30,000 of dividends, and had a surplus of \$9,000. It became financially embarrassed and passed into the hands of assignees.

The Nations Bank for Savings was established in 1871, with a capital of \$100,000. Arthur Hobson was its first president and E. M. Jenkins its first cashier. Mr. Hobson was subsequently succeeded by John A. Myler, and Mr. Jenkins by C. W. Benny.

The West End Savings Bank was organized in 1871 with a capital of \$100,000, payable in weekly installments. Wm. H. Singer, president; W. H. Wilson, cashier which positions they still hold.

The Fifth National Bank, of Pittsburgh, was organized October 1st, 1871, as the Farmers National Bank of Greensburg, Pa. By an Act of Congress, June 23,

1874, the name was changed to the Fifth National Bank of Pittsburgh, and by the same authorized to remove to Pittsburgh, Pa., which was done March 3d, 1875.

First board of directors was: Robert Arthurs, P. H. Allison, Ralph Bagaley, Addison Arthurs, Jesse H. Lippincott, Geo. W. Huff, James C. Clark, John Lloyd, Richard Coulter.

The first president was Robert Arthurs, who still fills the office.

The first cashier, L. Halsey Williams, resigned April 1st, 1886, and was succeeded by the present cashier, A. C. Knox.

The gross dividends paid since commencing business in Pittsburgh is \$92,000; the capital stock, \$100,000; surplus, \$20,000.

The Arsenal Bank was organized in 1871, with a capital of \$150,000. John W. Riddell was its first president. He was succeeded by S. J. Wainwright. Its first cashier was C. L. Staub, who was succeeded by W. S. Williams.

The Farmers and Mechanics Bank of East Birmingham was organized in 1872. It carried on business as a trust company for four years from 1868. It began with a capital of \$100,000 with privilege to increase to \$500,000. Present capital is \$130,000.

George Duncan was first president, and when he died was succeeded by James McMurtry. At his death Abijah Hays, Jr., became president, who resigned being too old to longer fill the office and was succeeded by C. J. Schultz. He resigned and was succeeded by —— McGary, when he died he was succeeded by John Henry Sorg, who is now president.

Henry F. Voight was cashier at the organization of the firm in 1868 and continued until March 1st, 1888, when he resigned, and was succeeded by Herman J. Barg. No information could be obtained as to first board of directors, dividends or surplus. In 1886 the bank had paid to that date \$145,000 of dividends and had \$15,000 surplus.

On March 5th, 1872, the Iron and Glass Dollar Savings Bank was incorporated which began business as a private bank February 13th, 1871. Its first banking house was at 1203 Carson street. Capital stock \$100,000

First directors were,—Thomas B. Atterbury, John Gallagher, Jas. H. Swett, Joseph Keeling, William Doyle, W. J. Levis, Daniel Wenke, Edward Moye, F. Baxmeyer.

The first president was Thomas B. Atterbury and the first cashier was Henry Stamm, which two officers continue in office to the present day.

The amount of the total dividends paid is \$122,500, the par value of stock is \$100 per share and the market value is \$140.

The Odd Fellows Savings Bank, of Pittsburgh, was chartered by the legislature March, 1872, and began business at No. 63 Fourth avenue, in which location they still are, having a capital stock of \$100,000.

The first board of directors was,—Henry Lambert, Edward Duff, John Seiferth, A. M. Brown, G. W. Schmidt, Andrew Miller, William Nelson, H. A. Weaver, S. J. Wainwright, D. P. Estep, G. W. Rankin.

The first president was Henry Lambert, who was, at his death, succeeded by Andrew Miller, who still continues in office.

The first cashier was W. J. Scully who continued in office until 1874, when he was succeeded by Samuel C. Applegate, who was succeeded, in 1878, by Frank E. Moore, the present cashier.

The total dividends paid since the organization is \$108,000. Surplus \$60,000.

In 1872 the Real Estate Loan and Trust Co. was organized and began the banking business on Ohio street, Allegheny City, March 1st, 1873, with a capital of \$73,000.

The first president, C. L. Straub, resigned and was succeeded by Charles Hierholzer, upon the death of whom the present president, G. Meyer, was elected. The present cashier is C. Schauer, Jr. No further information obtained.

The Shoe and Leather Bank was organized under a State charter in 1872, with a capital of \$200,000, Geo. H. Anderson being its first president, and John D. Frazier its first cashier. D. R. Davidson succeeded Geo. H. Anderson in the presidency, The bank went into liquidation about 1880-1.

The Monongahela Savings Bank was organized in 1872 with a capital of \$100,000. Wm. Douglass was its first president, who was subsequently succeeded by Henry A. Weaver. R. T. Hunt was its first and only cashier. Its place of business was at the corner of Fourth and Smithfield.

The bank not being profitable the depositors were paid off and the bank closed.

The Liberty Improvement Bank was organized in 1872 with a capital of \$100,000. A. H. Gross was its first president, O. F. Parker its first cashier, who was succeeded by A. M. Thorn. This bank was ultimately merged into the City Deposit Bank, of which Thomas Brown is now president, and H. C. McFarland, cashier.

The Bank of Industry was organized in 1872, with a capital of \$100,000. Its place of business was for some years at the corner of Fifth avenue and Scrip alley. M. Hastings was its first president and M. Hanrahan its first cashier. Mr. Hastings was succeeded in the presidency by James McLain, Mr. Hanrahan remaining cashier until the bank was ultimately closed out by dissolution, it being a semi-savings bank and was not found profitable.

The Market Bank was a small institution, organized in 1873, which had its office in the south-east corner of the Diamond Square, of which Thos. H. Hunter was the first cashier. He was succeeded by George Petty. It was not successful, and was wound up after some two or three years' struggling existence. Jacob H. Walter was its first president, and was succeeded by Joseph H. Gray.

The Penn Bank was organized in 1873, with a capital of \$75,000, as a State bank, and had its place of business on Wood street, near Fourth avenue, Jas. H. Hopkins being its first president and Wm. N. Riddle its first and only cashier. Its capital was subsequently increased to \$250,000, and its place of business removed to the corner of Liberty and Wood streets. In —— James H. Hopkins resigned the presidency, and Wm. N. Riddle succeeded him. In 1884 the bank failed from

speculative investments of its funds by the president, and the bank passed into the hands of Henry Warner, assignee.

The Anchor Savings Bank of Pittsburgh was incorporated 1st of April, 1873, and began business April 30th, 1873, with capital to be \$100,000, paid in by installments. The first banking house was on Wylie avenue, afterwards removed to 135 Fifth avenue, now 134 Fifth avenue.

Began as an individual bank. July 18th, 1877, became a State bank under the laws of Pennsylvania.

First president was A. M. Brown, who still continues in office. The first cashier was Jas. H. Scott, who served until June 1st, 1875, when R. J. Stoney, the present cashier, succeeded him.

It has a fully paid up capital of \$50,000, paying 4 per cent dividends and having a contingent fund of \$18,500 in addition to \$7,770 earning up to August, 1888.

On March 16th, 1875, was chartered the Third National Bank of Allegheny, with a capital of \$200,000, which commenced business April 1st, 1875. The first banking house was located at 140 Federal street, but in 1879 purchased and removed to the banking house 101 Federal street, formerly occupied by the old Allegheny Savings Bank, refitting the same.

The first board of directors was Jonathan Gallager, Addison Lysle, John Dean, John Megraw, John Heichenroether, James Morgan, John Kirkpatrick, Alexander Patterson, Robt. Taggart, Henry Cordier, N. H. Voegly.

The first president was Jonathan Gallager; first vice president, Addison Lysle. Jonathan Gallager resigned July 9th, 1877, and was succeeded by the Hon. Hugh S. Fleming, who continued in office until his death, July 5th, 1887, when he was succeeded by the vice president W. M. McKelvey, his place being then filled by R. H. Boggs.

Hugh Fleming was born in Ross township, Allegheny county, now the Third ward, Allegheny city, March 26, 1820. In 1835 he entered the drug store of H. P. Schwartz, continuing in that business until 1839. He took an active part in politics and was elected to Common Councils, from the Third ward, in 1841, 1842, and 1859. In 1852 he was elected on the Whig ticket County Treasurer. In 1861 he recruited Company K., of the 38th regiment, (9th Pennsylvania Reserves,) was mustered into service May 4th, 1861, and commissioned captain, resigning June 27th on account of impaired health. In 1870 he was elected Sheriff of the county on the Republican ticket. In 1872 he was chosen Mayor of Allegheny city. In 1877 he was elected president of the Third National Bank of Allegheny, which office he held at the time of his death.

The first cashier, W. A. Clemens, resigned July 1st, 1875, and was succeeded by the present cashier, H. A. Spangler. This bank has a surplus of \$50,000, and undivided profits of \$44,000.

The German National Bank, of Allegheny, Pa., was chartered May 17th, 1875, and began business June 1st, 1875, at 266 Ohio street, Allegheny, Pa., with a capital of \$200,000.

First board of directors was: A. Wiese, Joseph Lautner, Jacob Kopp, C. M. Anshutz, Hugh McNeill, L. Walter, Sr., Damas Lutz, G. Faas and John A. Herman.

Adam Weise was the president of the bank from the time of its organization up to the time of his death, March 27th, 1887, when he was succeeded by L. Walter, Sr., who is president now.

Joseph Stratman has been cashier since the time of the organization of the bank.

The amount of dividends paid is \$124,130.68; shares, \$100 each; book value of stock, \$143; last sales, \$126.50; surplus and undivided profits, \$86,000.

The City Savings Bank was incorporated in 1876, and began business at the same date.

The first president was Dominick Ihmsen, who was succeeded by John Rogers, and he by James Callery, the present president.

The first and present cashier is John W. Taylor.

The capital of this bank is \$100,000, there being 2,000 shares, and a surplus of \$18,000, the amount of deposits being about \$475,000.

The Duquesne National Bank was chartered in May, 1875. This bank was originally the Coal Men's Trust Company, organized in 1865, with A. J. Barker as president, and Wm. Douglass, treasurer, the capital, \$100,000, being paid in by installments. It began business at 409 Smithfield street. May 19th, 1867, E. J. Roberts was elected cashier. A. J. Barker resigning the presidency, William J. Anderson was elected his successor. Subsequently the title of the bank was changed to the Duquesne Bank. Wm. J. Anderson dying, Wm. G. Johnston, the present president, was elected his successor. On June 1st, 1870, E. J. Roberts resigned the cashiership, and A. H. Patterson was elected his successor. In 1875 the bank was organized under the National Banking Act, with a capital of \$200,000, the par value of the shares being \$100. The bank has paid in dividends since its organization as a National Bank \$136,000, and has a surplus of \$75,000. The book value of the stock is \$140, and the market value \$131.

The Metropolitan National Bank was organized in 1875, with a capital of \$200,000. Its first president was C. A. Dravo. He was succeeded by D. R. McIntire, and he by John Runnett. The first cashier was W. H. Smith. He was succeeded by C. A. Dravo, and he by George Seebick.

The Diamond National Bank was organized April, 1875, and began business in April, 1875, at the corner of Fifth avenue and Union streets, with a capital of \$200,000; par value of shares, \$100.

The first board of directors was: A. Garrison, Wm. M. Hersh, J. W. Carnahan, A. L. Robinson, Simon Brahm, Joseph Fleming, Jas. Nimick, A. N. Miller, Adam Getty.

The first president was A. Garrison, who still continues in office. The first cashier was John S. Scully, and he has continued in that position.

The dividends paid since organization is \$157,000, and the bank has a surplus of \$105,000. Book value of the stock is \$153, and its market value \$151.

March 6th, 1879, the Fort Pitt National Banking Company was organized, commencing business March 17th, 1879, at 79 Fourth avenue, with a capital of \$200,000. This bank was the successor of the Fort Pitt Banking Company, which was organized January 8th, 1868, with a capital of \$200,000, the president being Samuel McClurkan ; cashier, D. Leet Wilson.

The first board of directors was: David Hostetter, Jas. Gordon, John C. Risher, E. Fawcett, Robert H. King, Daniel Wallace, Andrew Miller, James M. Bailey.

Its place of business was 169 Wood street, and it paid dividends until it was absorbed by the Fort Pitt National Bank of \$202,425.

Samuel McClurkan died February 26th, 1878, and was succeeded by David Hostetter.

Samuel McClurkan was born in 1803 in the then village of Pittsburgh, near where the Adams Express building now stands, on Fifth avenue, and removed with his father to Noblestown. In 1830 he returned to Pittsburgh, and was a clerk at the Eagle Hotel, on Liberty street. He soon after became a clerk with James McCully. Subsequently he engaged in the coal business with John Riley. About 1840 he entered the employ of Dalzell & Fleming, wholesale grocers. In 1843, Mr. Fleming removing to Philadelphia, the style of the firm became Samuel McClurkan & Co. In 1850 embarrassments of Mr. Fleming in the east involved the firm of Samuel McClurkan & Co. and caused their suspension, but every liability was subsequently paid. In the fall of 1851, the Citizens Savings Bank having been organized, Mr. McClurkan accepted the cashiership. In 1854 his mercantile instincts rose uppermost, and associating with him Allen Kirkpatrick and John F. Herron, they organized a firm under the style of McClurkan, Herron & Co., to prosecute the grocery business. In 1865 he sold his interest in the firm and turned his attention to the insurance business, being a charter member of the Cash Insurance Company, and also of the Pittsburgh Insurance Company, of which he was for a period the president. At an age when most men would have hesitated about engaging in new enterprises he organized the Fort Pitt Banking Company, as already stated, in the presidency of which he died. This is a brief record of a busy and finally successful life, where commercial integrity and moral principles in all the paths of life were the guiding lights.

On the organization of the Fort Pitt National Bank the president and cashier of the Fort Pitt Banking Company, David Hostetter and D. Leet Wilson, were retained, and the following board of directors entered on their duties: D. Hostetter, John B. Dunlevy, John C. Risher, Samuel Ewert, Allen Kirkpatrick, Robert H. King, Patrick McCullough, Daniel Wallace, James M. Bailey.

Since its organization as a National Bank it has paid \$108,000 of dividends, has undivided profits on July 1st of \$55,820, and a surplus of \$100,000.

The Commercial National Bank was established June, 1882, with authorized capital of \$500,000; a paid up capital of \$300,000. Their banking house was at 97 Fourth avenue.

The first board of directors was: M. W. Rankin, Wm. H. Smith, Josiah King, D. R. Davidson, D. M. Smith, John W. Herron, Jacob S. Reymer, S. S. Marvin, Joseph H. Borland.

The first president was M. W. Rankin, who still holds that office.

The first cashier was John D. Frazier. On his resignation H. W. Bickell succeeded him, June, 1885. During the six years of its organization the bank has paid dividends to the amount of \$69,000, and have a surplus of \$18,000.

The Keystone Bank was organized under the State laws in 1884, with a capital of \$300,000. J. J. Vandergrift was the first president and A. B. Davitt the first cashier, which offices they still hold.

The Monongahela Bank was organized in 1888, with a capital of \$000,000. Thomas Jamison was elected president and John D. Frazier cashier.

The Nation Trust Company, which was originally the National Trust Company, was organized about 1868-70. Robert Dickson was its president, and Robert Greer its cashier. The bank was a co-partnership, or individual bank. In 1873-4 it collapsed, and brought financial disaster to many business men and suffering to private individuals—another instance of speculative investments of the funds of the bank by its fiduciary agents and over-confidence in its directors in the officers of the institution.

The Western Bank, which was established in 1850, was subsequently organized as the Commercial Bank, in 1856. Thompson Bell, president; David Robinson, cashier. Mr. Robinson subsequently resigned, and organized, in 1863, the banking firm of Robinson Bros., which still continues in business. The Commercial Bank ultimately became a private banking house, under the style of Thompson Bell & Co., which firm was carried on until the death of Thompson Bell, in 1886-7, when it ceased to exist, Mr. Bell owning about all of its financial interests.

The First National Bank of Braddock was organized in 1882, with a capital of \$75,000, with Jesse Lippencott as president and W. W. Watt as cashier.

The Braddock National Bank was organized in 1882, with a capital of \$100,000, with Robert E. Stewart as president and John G. Kelly as cashier.

The Farmers Deposit Bank of Sharpsburg was organized in 1879, with a capital of \$50,000, at which time George A. Chalfant was president and Robert M. Coyle cashier.

The banking house of W. R. Thompson & Co. originated with the firm of Semple & Jones, established in 1859, (John B. Semple, John B. Jones). On the death of John B. Semple his son, Frank Semple, succeeded to his interest, the firm style remaining unchanged until 1881, when John B. Jones, the surviving partner of the original firm, sold his interest to Wm. R. Thompson, formerly president of the Mechanics National Bank, and the firm style was changed to Semple & Thompson, and has since become W. R. Thompson & Co.

There were other banking institutions, which have not only ceased to be, but their memories are so lost that no reliable account of their existence or officers can be gathered. The record that is here given has been difficult to obtain.

There are, no doubt, omissions and also errors, but they must be attributed, in many cases, to the indifference of those who should be most interested, and procrastination in others to furnish the information necessary until the hour, almost, of the forms going to press.

The record tells its own story, so far as the narrative goes, of the progress in Allegheny county in what is technically styled the banking business. The amount of dividends paid in the eighty-five years embraced is, uncertain as it is, an immense sum.

The earnings of the banks during the war period and for a number of years after was much larger in proportion to the volume of business than at present. In those days it was profitable to have circulation, and the National banks took out all the law permitted, whereas, now it does not pay to purchase bonds at the high premium necessary to pay the Government for the circulation. The most of the New York banks have reduced their circulation to a minimum, *i. e.*, a deposit of \$50,000 of bonus for \$45,000 of circulation. The rates of interest on Governmental bonds during the war was 7.30 and 6 per cent. and the interest was paid in gold and this was sold at times at a premium as high as 100 per cent. The high rates of interest paid by the government compelled private borrowers to pay even higher rates and it was not uncommon for good paper to be discounted at from 9 to 10 per cent. While the rates of interest on bonds and on discount is much less than before, the volume of business done by the banks is so much greater that the earnings are kept up.

CHAPTER XIX.

Insurance Companies.

The first insurance issued by a home company in Allegheny county was by the Pittsburgh Manufacturing Company, in 1810, to William Wilkins, on his home where the Monongahela House now stands, that company being chartered as a banking and insurance company.

On the 1st of January, 1845, there were four solvent fire insurance companies in Pittsburgh. On the close of April 10th, 1845, there was but one, the great fire bankrupting the other three. The four were the Firemans, of which John D. Davis was president, and Samuel Gormley secretary; The Penn, of which Josiah King was president, and John Finney secretary; The Navigation, of which Michael Allen was president, and James S. Craft secretary; The Allegheny Mutual, of which Samuel R. Johnston was president, and John Robinson Secretary. Of these the Navigation, which had a capital of \$200,000, escaped ruin by the great fire. Its capital was largely impaired, but it paid its losses and continued business on \$80,000 of capital, and was merged in the Western in 1849.

The Citizens Insurance Company was organized March 7th, 1849, with a capital of \$100,000, par value of stock \$50 per share. The first board of directors was

Wm. Larimer, Jr., Robt. Woods, Wm. B. McClure, Joseph Plummer, Samuel Kier, Josiah King, John Sheriff, Alex. Roseburg, H. D. King. The first president was C. G. Hussey, who was succeeded by H. D. King, December, 1852, and he by Wm. Bagaley, December, 1854, and he by Samuel Rea in 1875, and he by Wm. G. Johnston, who is now president. A. M. Marks the first secretary, was succeeded December, 1851, by Samuel L. Marshall, and he, in 1860, by Samuel Rea, and he, in 1864, by W. A. Shepard, and he, in 1871, by John Rea, and he by Walter Morris, in 1875, and he by James Ross Snively, October 1st, 1887. Total cash dividends paid from organization, \$679,000. Total losses paid, \$1,246,000. The capital was increased subsequently to \$500,000.

The Western Insurance Company was organized in 1849, with an authorized capital of \$300,000, but \$225,000 of it was subscribed. In November, 1884, the remainder of the stock was issued. The first board of directors was

The first president was Rueben Miller, Jr., who served until December, 1855, when he resigned to accept the presidency of the Mechanics Bank. He was succeeded at that date by George Darsie, who died in May, 1861, but had resigned previously. He was succeeded by Reuben Miller, Jr., who served his second term until June, 1865, when he resigned and Alex. Nimick succeeded him and has continued in office ever since.

John Fluney, Jr., was the first secretary, he served about one year when, he dying, Frank Gordon was elected his successor in 1850. He served until May, 1865, when he resigned to become the cashier of the Peoples National Bank, and on June 4th, 1865, Capt. W. P. Herbert was elected to succeed him. Capt. Herbert began his service in the company as an errand boy in 1854. In 1862 he enlisted in the three year service, and while in it was elected the secretary as above. The gross assets of the company are \$447,011.33. In thirty-nine years it has paid seventy-two dividends amounting to \$1,014,250, and losses to the amount of \$1,379,881.15.

The Allegheny Insurance Company was incorporated January 27th, 1854, and began business April 4th, 1859, with a capital of \$100,000; par value of shares, \$50. The first president was Isaac Jones, who was succeeded by John Irwin January 1st, 1866, and served until January, 1880, when he declined re-election, and was succeeded by Capt. Geo. W. Cochran, who served until January, 1887, when declining a re-election, he was succeeded by Chas. Hays, who is now president. D. M. Book, the first secretary served until January, 1886, when he was succeeded by C. G. Donnell, who has filled that office since. The first vice president, John D. McCord, served until January, 1869, when he moved to Philadelphia, and was succeeded by Thos. J. Hoskinson, he serving until 1873, when he also moved to Philadelphia, and was succeeded by James D. McCord, who now holds that office. The total dividends paid by the company since its organization is \$189,000, the total losses, \$508,000. Its surplus is \$52,000. Book value of its stock, \$75, market value, \$56.

The Monongahela Insurance Company was organized 1854 with an authorized capital of \$500,000, its place of business was at 98 Water street. James A. Hutch-

inson was its first president, and Henry M. Atwood its first secretary. James A. Hutchinson resigned April 2d, 1867, and was succeeded by Wm. A. Colwell, who has continued in office ever since. Henry M. Atwood resigned as secretary July 1st, 1863, and was succeeded by Henderson E. Davis, who resigned May 21st, 1864, and was succeeded by J. H. Claney, who has continued in that office. The company has paid dividends since its organization to the amount of \$433,435, and paid losses to the amount of \$541,304. Its capital stock paid up is \$175,000, and surplus \$30,000. Par value of stock, \$50.

The Pittsburgh Insurance Company was incorporated February 10th, 1851, as the Pittsburgh Life Insurance Company. The incorporators and first board of directors were James S. Hoon, Sam'l McClurkan, John S. Dilworth, Jos. S. Leech, Chas. A. Colton, Wm. Phillips, John A. Wilson. James S. Hoon was elected president, Sam'l McClurkan vice president and Chas. A. Colton secretary. On March 27th, 1854, the title was changed to the Pittsburgh Life, Fire and Marine Insurance Company. On February 18th, 1859, the name was again changed to the Pittsburgh Insurance Company. February 14th, 1855, Robt. Galway succeeded James S. Hoon, the first president, and he by James W. Hailman February 9th, 1860, and he by George Black February 11th, 1861, and he by Henry Lloyd February 5th, 1873, and he by Chas. Arbuthnot February 30th, 1880, who is the present president. On February 14th, 1855, Sam'l McClurkan, the first vice president, was succeeded by John Alpin, he was succeeded February 7th, 1856, by Chas. Arbuthnot, and he by Alexander Bradley February 6th, 1858, and he by Chas. W. Batchelor February 9th, 1860, and he by Sam'l McClurkan February 11th, 1868, and he by James Gordon February 14th, 1872, and he by John Fullerton February 1st, 1887. Chas. A. Colton, the first secretary, was succeeded February 14th, 1855, by Jas. D. McGill, and he on February 7th, 1856, by Thos. Graham, and he by F. A. Rinehart February 6th, 1858, and he by J. B. Livingston August 3d, 1863, and he by James Collard April 5th, 1864, and he by W. B. Neeper February 8th, 1867, and he by D. C. Hultz February 11th, 1868, and he by Hillis McKowan March 24th, 1873, who has continued to fill the office since. Only \$10 per share was paid by the subscribers on account of the stock when the company was organized, the total cash paid by stockholders being \$20,000, the balance being secured by stock notes which were paid by stock dividends. The present cash capital is \$100,000. Assets, \$274,278.15. Net surplus over capital stock, reinsurance and all other liabilities, \$157,370.29. Par value of stock, \$50 per share. Market value of stock, \$125 per share. Losses paid since organization, \$736,956.12. Dividends, \$568,000.

The German Fire Insurance Company was incorporated March, 1862, and began business July 1st, 1862, on Liberty avenue, near Sixth, (now 640) with capital of \$100,000. Par value of stock \$25. Clemenc Hoeveler was the first president and F. L. Gross the first secretary, which office he still holds. Mr. Hoeveler resigned in December, 1877, and was succeeded by C. Barchfield, who is now president. In 1877 the capital was increased to \$200,000 and the shares to \$50 par

value. The company has a surplus of \$82,166.37, and have made dividends to the amount of \$632,000 and losses to the amount of \$1,071,718.55. The book value of the stock is \$72.

The Peoples Insurance Company was organized and began business June 10th, 1862, with an authorized capital of \$100,000 and a paid up cash capital of \$50,000. In January the capital stock was increased to \$200,000. The first board of directors was Wm. Phillips, John Watt, Wm. Vankirk, John E. Parke, Capt. John L. Rhoads, Geo. B. Jones, Frank VanGorder, Wm. B. Hays, James D. Verner, Chas. S. Bissell, C. Hanson Love and Sam'l P. Shriver. The first president was Wm. Phillips, who resigned January, 1872, and was succeeded by John Watt, who served until January, 1874, when James Herdman was elected his successor and who is still president. Wm. F. Gardner has been secretary and treasurer from the date of the organization of the company. Capt. James Gordon was general agent for the company from 1865 to 1869, when he was succeeded by George M. Alexander, who served from 1875 to the present time. Wm. A. McCutcheon was elected assistant secretary January, 1884. Dividends paid since organization \$294,000. Losses paid, \$1,120,751.91.

The Cash Insurance Company was organized May 22d, 1865, and began business June 1st, 1865, at 59 Fourth avenue, with a paid up capital of \$100,000. The first president was Isaac M. Pennock, who resigned January 9th, 1866, and was succeeded by Robert H. King, which office he still fills. The first secretary was Thomas Graham, who resigned January 9th, 1865, and was succeeded by Joseph T. Johnston, who has continued in the office of secretary to this time. The company have paid \$232,000 of dividends since its organization, and losses to the amount of \$230,000. The par value of its stock is \$50, its book value \$81.50, and its market sales at \$52.

The Manufacturers and Merchants Fire and Marine Insurance Company was incorporated February 28th, 1865, and began business May 1st, 1865, at 87 Wood street, with a capital of \$250,000, shares of \$50 each. The first president was James I. Bennett; John W. Chalfant, vice president; W. P. Jones, secretary, who died August 22d, 1871, and was succeeded by A. E. W. Painter, who was appointed secretary *pro tem.* until January 1st, 1872, when James A. Kenney was elected secretary. Mr. Kenney resigned March 18th, 1885, and was succeeded by John P. Henry, who resigned March 15th, 1887, and was succeeded by Wm. T. Adair. On August 14th, 1871, August Ammon was elected general manager, which office he still holds. The company has paid dividends to the amount of \$537,500, and losses to the amount of \$708,000. The book value of its stock is \$58, and it has a surplus of \$40,876.81.

The Boatman's Fire and Marine Insurance Company was organized March 20th, 1865, with a capital stock of \$250,000; par value of stock, \$50. R. C. Grey was the first president, and was succeeded by Jas. E. Hutchinson January 12th, 1875. He resigned September 1st, 1880, and January 11th, 1881, O. P. Scaife, the present president, was elected. David E. Park was the first vice president. He

resigned December 8th, 1873, and was succeeded December 8th, 1873, by Wm. H. Forsythe, who died November 1st, 1874, and January 12th, 1875, Oliver P. Scaife was elected to succeed Mr. Forsythe, holding that office until January 11th, 1881, when he was elected president. Jas. H. Sewell was, on January 11th, 1881, elected to succeed Mr. Scaife. Mr. Sewell died August 4th, 1885, and on January 12th, 1886, John A. Caughey, the present vice president, was elected. Robert Finney was the first secretary and treasurer, and served until about November 20th, 1873. On December 3d, 1873, Earl S. Gardner was elected secretary, and on April 1st, 1884, he was succeeded by the present secretary, H. H. Schenck. On April 1st, 1884, Henry F. Weaver, who had been with the company as bookkeeper since January 23d, 1872, was elected treasurer. Dividends paid since organization, \$332,107.50; total losses paid by the company, \$1,236,108.13.

The Artizan Insurance Company was organized March, 1866, with a capital of \$100,000, the par value of the shares being \$50. It began business July, 1866. Wm. H. Smith was the first president, and J. Gardner Coffin the first secretary. John Dunlap, vice president, in which office he still continues. In March, 1885, Wm. H. Smith died, and was succeeded by Albert J. Barr, who now fills that office. J. Gardner Coffin resigned as secretary December 5th, 1871, when he was succeeded by Albert J. Barr, who continued to hold the office until he succeeded Mr. Smith in the presidency, when Chas. P. Smith was elected secretary May 5th, 1885. The company have paid since its organization \$198,000 of dividends, and losses to the amount of \$260,376; surplus, \$13,453. The book value of its stock is about \$58. There has been none of its stock for sale for years.

The Ben Franklin Insurance Company was incorporated February 9th, 1866, and began business June 26th. The present president is John Ogden; the secretary, W. A. Ford. Its cash capital is \$150,000, and its surplus \$15,217.03. It has paid losses to the amount of \$387,936.32, and cash dividends of \$100,301, and stock dividends to the amount of \$40,000.

The Allemania Insurance Company was incorporated in 1868, and began business July, 1868, on Fifth avenue. Robert C. Schmertz was the first president, which office he held until his death, in April, 1888, when Joseph Abel was elected president. Charles F. Herrosee was its first secretary, and still continues to hold that office. The cash capital of the company is \$200,000. It has paid dividends to the amount of \$260,000 and losses to the amount of \$1,714,603.

The City Insurance Company was organized in 1870, and began business December 15th, 1870, at 64 Fourth avenue. Robert J. Anderson was the first president, and is so to the present time. John R. Gloninger was the first secretary, and Captain R. J. Grace the first vice president, and William Barker treasurer. Captain Grace died July 22d, 1885, and was succeeded by John R. Gloninger, being succeeded in the secretaryship by J. F. Lauker, which office he still holds. Mr. Gloninger being killed in an accident on a railroad on November 1st, 1887, he was succeeded by James Phelan. The company has paid dividends to the amount of \$105,000; losses to the amount of \$645,000. The book value of its stock is \$54, and its market value \$50.

The Union Insurance Company was incorporated February 10, 1871, with a capital of \$100,000, par value of shares being \$50. They began business May 1st, 1871, at 75 Smithfield street. James N. Hopkins was the first president, and J. W. J. McLain the first secretary, and George Ogden as general agent, which offices they still hold. James N. Hopkins resigned in 1880, and was succeeded by J. T. Colvin, who resigned in 1883, and was succeeded by Andrew Mellon. The company has paid \$82,960.60 dividends, with a surplus of \$21,537.21, and losses to the amount of \$868,121.86. The book value of the stock is \$60.75; market value, \$47.50.

The Teutonia Insurance Company was incorporated July 8th, 1871, and began business July 18th, with a cash capital of \$125,000. The present president is Henry Gerwig, and C. W. Young, secretary. To January 1st, 1888, the company had paid \$87,805.22 cash dividends, and made stock dividends to the amount of \$62,500, with a surplus of \$52,809.20. They have paid losses to the amount of \$114,382.29.

The Humboldt Insurance Company was incorporated November 18th, 1871, and began business November 23d. The present president is P. J. Urling; A. H. Trimble, secretary. They have a cash capital of \$100,000, and a surplus of \$2,417.22. They have paid losses to the amount of \$151,348.38, cash dividends of \$44,192.88, and stock dividends to the amount of \$23,202.65.

The Birmingham Insurance Company was incorporated May 17th, 1871, and began business August 1st. John P. Schneider is now president, and E. G. Scholtze, secretary. It has a cash capital of \$200,000. It has paid losses to the amount of \$264,854, cash dividends of \$116,046, and stock dividends to the amount of \$78,802.

The Armenia Insurance Company of Pittsburgh was incorporated March 26th, 1872, and began business May 15th, 1872, with a capital stock paid up of \$250,000; par value of shares, \$100. Its first office was over the first National Bank, Fifth avenue. Its first board of directors was S. S. D. Thompson, T. Brent Swearingen, Alexander Patterson, John S. Scully, W. P. Logan, Jacob H. Walter, Chas. Zug, Hugh McNeil, A. Weise, John A. Myler, John Heath, C. L. Shaub, Henry Warner, John H. McCreery, James Laughlin, Jr., R. S. Waring, Joseph Phillips, R. H. Dalzell, Joseph Gazzam, Jacob Kopp, Isaac Stewart. The first president was S. S. D. Thompson, who is still in office. The first secretary was T. Brent Swearingen. He was succeeded by J. L. Butler, who was elected in November, 1874, and died in May, 1875. He was succeeded by E. A. Curtis, June, 1875, who resigned in May, 1880, to take charge of the New York branch of the company, and was succeeded by W. D. McGill, the present secretary, in May, 1880. The company has paid dividends from the time of its organization up to January 1st, 1888, to the amount of \$270,000, and losses to the amount of \$385,882.90, and has a surplus of \$25,000 over all liabilities.

The German-American Insurance Company was incorporated March 11th, 1873, and began business June 2d. G. H. Meyer is the present president, and W.

J. Patterson the secretary. It has a cash capital of \$100,000, and a surplus of \$37,783.81. It has paid losses to the amount of \$243,119.35, and cash dividends of \$76,000.

CHAPTER XX.

Electrical Appliances

It is safe to say that Pittsburgh has within the past ten years made more rapid strides in introducing the practical applications of electricity to the various industries than any other city in the United States. It is not meant by this that the city is in advance of all others in this field, but have reference more particularly to what has been acquired in that time.

Prior to 1878 there was nothing here in the electrical line save the ordinary telegraph systems. Pittsburgh has always been an important telegraph point as a repeating station. In 1878 Mr. T. B. A. David brought the Edison telephone to Pittsburgh, and in the same year the Bell system was introduced. The merchants were slow in seeing the advantages of the telephone, as is proven by the amount of business done by both companies at the time of their consolidation, Edison Company having fifty instruments and the Bell about thirty, or a total of eighty, while now there are between two and three thousand instruments in service.

In 1877 Mr. Eugene Ingold brought from Cleveland a four-light electric light machine. The apparatus was put up on Duquesne Heights and operated for a week. This attracted attention, but did not develop business. In fact, two years were spent in securing the first sale. And this was a six-light machine to James Park, steel manufacturer.

This attracted general attention, and its superior advantages as an illuminant for mills were appreciated and they soon came into general use. By 1882 the electric light had secured the confidence of the public, and Mr. George Westinghouse and associates organized the Allegheny County Electric Light Company and purchased the rights of the Brush patent. A short time after Mr. Ingold organized the Pittsburgh Electric Company and secured the agency of the Edison Company for incandescent lighting, and the Thomson Hueston Company for arc lighting. This briefly sketches the introduction of the use of electricity into its wider commercial usages in Pittsburgh.

It has been actively followed up, and to day the use of electricity for motors, illuminating, telephones, call wires, and the many ways in which it is being daily applied, has made its use no longer a novelty in Allegheny county. It has, however, given rise to an establishment at Pittsburgh which is a scientific wonder.

The works of the Westinghouse Electric Company have grown from Mr. George Westinghouse's first investments in electrical appliances in 1882, before mentioned. To attempt to give any description of these immense works, unless in purely

technical language, would be a failure, and but little understood by the general reader unless accompanied by illustrations and pages of description.

In its rooms are to be encountered men of many nationalities, Hungarians, Italians, Germans, Swedes, Frenchmen, Englishmen, men learned in the abstruser depths of the science of electricity and of proven genius. Whether one is learned in the native languages of these corps of talented men who are enthusiastically busy developing new electrical appliances, and inventing new methods of rendering it of practical use in every day life, they must be well acquainted with the language of science to comprehend the technical explanations of the work performed. It may be briefly described as an encyclopedia of electrical knowledge and a polytechnical school of science.

The Westinghouse Electric Company has a capital of five million dollars, fully paid; employs at its works in the city of Pittsburgh from 750 to 1,500 hands, according to the season and the condition of work.

The manufacturing property of the company consists of two brick buildings, each 150x75 feet, and five stories high; another brick building about 75 feet front and 140 feet deep, five stories high, and a large one-story machine shop about 175 feet square.

The apparatus manufactured by this company is in use at over 125 central lighting stations throughout the United States and Canada. The capacity of the works is equal to the turning out of apparatus for the complete supplying of 5,000 16-candle power lamps per diem.

This company was organized early in the year 1886, prior to which time it existed almost as an experimental department of the Union Switch and Signal Company. So soon as the organization of the Westinghouse Electric Company was effected, early in 1886, a large amount of money and a great deal of energy was put into the new organization, which resulted in placing this company in the short space of about three years in the foremost ranks of electrical manufacturing and engineering concerns in this country.

The Westinghouse Electric Company was the first to introduce in this country what is known as the alternate system of electric lighting, which has revolutionized the art and rendered possible the distribution of incandescent lighting and of power service from any given spot as a central station over any area actually found to exist in a city or town.

This company is also the first to introduce a meter for measuring electricity, the same as gas companies. This instrument, which is beautiful in its simplicity, is the invention of the company's electrician, Mr. O. B. Shallenberger.

The Westinghouse Electric Company was also the first to introduce motors for running on an alternating current circuit.

Although the Westinghouse Electric Company is the youngest of what are known as electric companies, yet through the great energy and ability of its promoter it has become one of the strongest and most enterprising companies in the business.

The works of the Union Switch and Signal Company, mentioned before as the establishment of which the Westinghouse Electric Company was but an experimental department, before its organization as a distinct corporation, are too well known in all railroad circles to require any especial introduction, and its automatic electric signals, switching apparatus and automatic block signals are too widely in use to have escaped the observation of travelers, while to railway people and experts they need no description.

The products of this corporation are not only such as add to the magnitude of the output of the manufacturers of Pittsburgh, but of a character that renders them valuable in other than by pecuniary estimates. This value is in the safety which is by them given to railway travel and the prevention of collisions by the electric automatic locking switch and signal shifting levers manufactured by this company. The appliance of these is through the "Block system" as first introduced on the Pennsylvania Railroad some three or four years since.

The Union Switch and Signal Company manufacture railway signals of all kinds, operating automatically by the passing train through rail or wire circuits, to set or reverse signals in front or rear, or both.

The company own or control over 250 patents, which is believed to cover all reliable or safe circuits for electrical signaling.

This comprehensive corporation, of which George Westinghouse, Jr., is president, C. H. Jackson, vice president and general manager, and A. T. Rowand, secretary, occupy in the manufacture of their signals one and a quarter of an acre of ground, the greater part of which is covered by a five-story brick building, in which 135 hands are employed, whose wages average \$135,000 a year. The works are in operation about 300 days in the year, and the products run from \$300,000 to \$500,000 annually. The value of the plant, including cost of patents, is \$1,886,000. The office is at the works, on the corner of Duquesne way and Garrison alley.

Although many inventions have been patented and tried by which the wires of telegraph and telephone companies could be laid underground, yet none of the inventions were satisfactory in their practical working. To Pittsburgh talent, invention and persistency belongs the honor of having solved the problem, which success resulted in the formation of the Standard Underground Cable Company.

This company manufactures the Waring underground aerial and submarine cables for telephone, telegraph, electric light and other electrical uses. In the summer of 1882 Richard S. Waring, the inventor of the cables and processes owned by the Submarine Underground Cable Company, laid his first experimental line of five-wire anti-induction cable from Vesta Oil Works, Waring Station, on the Allegheny Valley Railroad, to the general offices of the Standard Oil Company, on Seventh street, Pittsburgh.

Operating a single wire as a Morse circuit and an adjacent one as a telephone circuit, it was discovered that induction, the bugbear of air lines as well as of previous underground systems, was completely overcome. In 1883 a company was

formed, with a capital of \$3,000,000, and a large manufactory was built at the corner of Sixteenth and Railroad streets, in Pittsburgh, for the manufacture of the Waring cables, which covers 100x117 feet, four stories. In the same year the company put several miles of the Waring anti-induction cable into successful operation for the National Government in Washington, connecting the Capitol, the White House, War, State and Navy Departments, and several miles for the District Fire Department.

The inventor seems to have solved the problem of underground telegraphy and marks another era in the progress of Pittsburgh in the building up of its national reputation as a cosmopolitan manufacturing center.

Though unable to give the amount of labor, as it varies from time to time, it is safe to say that it ranks among the leading industries of Pittsburgh.

In concluding this brief account of the chief electrical industries of the city, it cannot be better done than by quoting the opening sentence of this chapter, "It is safe to say that Pittsburgh has within the past ten years made more rapid strides in introducing the practical application of electricity as an industry than any other city in the United States."

CHAPTER XXI.

Churches, Schools and Newspapers.

Settled as Allegheny county was so largely by the Scotch, Irish and the German population, it would have been a strange departure from the general characteristic of either race if under their religious tendencies the country around Fort Pitt had not shown buds of the uprising of the various religious denominations that have since grown to healthy trees, bearing good fruit. The soil on which the seeds were dropped seemed unpromising, for it is indisputable that any or all of the vices of the frontier and garrison town of that early period flourished at that time.

In the general history embraced in this volume mention has been made of the opinion of Arthur Lee as to the moral atmosphere of Pittsburgh, and the almost despairing expression as to the possible religious future of the settlement in the record that that there is "neither priest or church in the place." It is very evident from all accounts written in those early days and the traditions of the escapades of even the better sort of people, that there was but little systematic religious observance, although James Kenny, in 1761, writes in his journal: "Ye soberer sort of people seem to long for some way of public worship."

The word the "Quaker man" used to designate the class of people who had a "longing for some way of public worship" as from what is known of the affection entertained by the population at that time of the frontier for "John Barleycorn" is rather ambiguous in the meaning, but for the credit of the early settlement

must be interpreted as meaning the more reflecting people. It is certain that amid the rude and reckless characters of the first settlements there was little sympathetic religion practised and no resident minister of the gospel.

The first Protestant religious services west of the Alleghenies were at Muskingum, a Wyandot town, on the river of that name, where on Christmas day, 1850, Christopher Gist read the Church of England services, which was translated to the Indians by Andrew Montour.

From time to time ministers visited the point and preached to the soldiers and settlers. Rev. Charles Beatty in 1758, and Rev. Duffield in 1766. But their preaching seems to have been of but little avail, as a company of ruffians from this section massacred the first Christians of the wilderness. In April, 1770, Moravian missionaries came down the Allegheny in sixteen canoes from the Christian Indian settlements on the Susquehanna. From Fort Pitt the missionaries went down the Ohio river and up the Big Beaver some twenty miles and established a settlement called Friedensstadt, or the Village of Peace. Here many converts to Christianity were made from the surrounding Delaware villages, and the settlement prospered in every way, but the feeling of revenge against the "red skins" was too bitter around Fort Pitt for peace, and, in 1775, the Moravian missionaries took their converts to a quiet region on the Tuscarawas river in Eastern Ohio, where the settlements of Gnadenhutten and Schoebrunn were established. Five years later, when these two peaceful settlements were destroyed by the surrounding unchristianized Indians at the instigation of Simon Girty and Elliot the deserter, Kilbuck the famous Delaware chief took them under his protection, and the Moravian missionaries continued their work in the Indian village on Smoky Island, since washed away by the Allegheny river floods, opposite Fort Pitt. In 1782 the Moravian village of Gnadenhutten was again surprised and pillaged by a body of 300 men under the command of Captain Williams, of Washington, Pa., incensed against the missionaries possibly on account of their preaching abstinence from liquors.

The first permanent church west of the Alleghenies was the German United Evangelical Protestant Church. A log structure, on the corner of Diamond and Wood streets, was established by the Rev. Wilhelm Weber, a minister from Westphalia, Germany, who included in his circuit four churches. The church which ultimately took the place of this log building is the structure at the corner of Smithfield street and Sixth avenue.

In 1786 the Penn heirs donated the property now occupied by the church. In 1793 Rev. Mr. Weber dropped the Pittsburgh church and gave his attention to his Greensburg congregation, the twenty families of the Pittsburgh congregation having grown to twice that number. He was succeeded in his pastorate by Rev. Mr. Sahnee, and he by Rev. Mr. Ingold, one of the most learned men of his time in the State. He was the son of a Huguenot minister who fled to America to escape persecution. His library was at that time one of the finest collections in America. Rev. Mr. Geisenheimer succeeded him and preached to the Reformed denomination in the morning and the Lutheran in the afternoon, under the same roof. He

was succeeded by Rev. Mr. Kurz, and he by Rev. Mr. Kaemmerer, who remained in charge until 1840. In 1833 it built a new meeting house surmounted by a steeple and a bell, which was the first used in the city for religious purposes. The bell still calls the people to worship and has a romantic history, having been brought to America by a poor Swiss schoolmaster who was unable to pay duty upon it, and the church obtained it by paying the Custom House demands.

Until 1833 the Smithfield Street Church was the only German church in the county. In that year the congregation split, and one faction, headed by Nicholas Voegty, established the Lutheran church corner of Ohio street and Church alley, Allegheny.

In 1840, the Rev. Mr. Jaehal came to minister to the Pittsburgh church. He was succeeded by Rev. Koeler in 1846, then Rev. Waldburger in 1852; in 1858, by Rev. Dr. Walther, a man of much learning, in whose ministry the burying ground which had extended back of the church to Montour way and Strawberry alley, was changed to Troy Hill, and the present dwellings erected upon it. On the death of Dr. Walther, in 1868, Rev. Carl Weil succeeded him, in whose charge the building now occupied by the congregation was erected. It cost \$137,000. In 1879 Rev. Frederick Ruoff assumed the charge. The church has now a membership of 1,800 persons. The property it owns is assessed at \$400,000.

In response to a petition from some few individuals in this modern Sodom, the Redstone Presbytery sent Rev. Joseph Smith then pastor of the churches of Cross Creek and Buffalo, to preach to them on the fourth Sabbath of August, 1784. Among the first to encourage a place of worship in Pittsburgh was John Wilkins, who records that when he first entered the town in 1783, "all sorts of wickedness was carried on to excess" he concludes that "Presbyterian ministers were afraid to come to the town, lest they should be mocked and mistreated." The history of the times afford just such a conclusion as that to which this first settler came. Many incidents are still preserved of the difficulty under which the pioneers of the church labored. Not with Indians only, but also with the disorderly element among the white settlers, who maintained the bitterest aversion to everything in the name of religion. Very often the people assembled for worship were hooted, pelted with stones and their assemblies broken up. In October, 1784, Rev. James Power, by appointment of the Presbytery, preached to the congregation of worshipers in the town. In 1785, Rev. Samuel Barr, from Londonderry, Ireland, began to minister regularly to the people in Pittsburgh and Beulah, in Pitt township, and on June 17th of that year he was ordained to the full work of the Redstone Presbytery. Although a request was made in this year to the Legislature for the incorporation of a Presbyterian congregation, no Act was passed until 1787. During this period the Rev. Mr. Barr ministered to the two congregations. On September 24th, 1787, the Penn heirs deeded two and a half lots of ground to the congregation on which to erect a house of worship. This they proceeded to do building a church of "moderate dimensions and square timber." This church was used until 1804 when it was replaced by a more commodious one. This build-

ing was the first Presbyterian Church in the city that now contains two hundred churches.

No doubt but that the elders at least of that early church were Godly and pious men, but the methods they used to defray church expenses would to-day cause them to be "sessioned" expeditiously. In 1807 an advertisement in the Pittsburgh *Gazette* announces that "the managers will commence the drawing of the Presbyterian Church lottery in the Court House in Pittsburgh the 20th day of October." The advertisement is signed by John Wilkins, John Johnston and William Porter, managers.

They also purpose to sell the tickets on credit, payable ten days after the drawing commences.

In a later advertisement the managers threaten to bring suit against all parties who have not yet paid for their lottery tickets. Church fairs and oyster suppers have to-day taken the place of the lottery of 1807 as a church financial scheme. The principle seems to be the same, if it has been somewhat watered, in accordance with the fashion of to-day.

Rev. Samuel Barr continued to serve this congregation until June 12th, 1789, when he requested a dissolution of his pastoral relations, giving among other reasons that "the trustees had requested him to collect his own salary for the past year, which was as much as to say that he might hunt after his salary from door to door." After his withdrawal the church was variously ministered until 1799, when Rev. Robert Steele, from Ireland, began to preach for them, and soon afterwards became the pastor, and so continued until his death, March 22d, 1810. On April 3d, 1811, Rev. Francis Herron, D. D., one of the noble men connected with the growth of the city, became the pastor, which he continued, loved and revered by all his people, until his death in 1860, although ten years previous to his decease Rev. W. M. Paxton took the great burden of the work off his shoulders. In 1803 differences arose among the membership of the First Church, which finally culminated in the formation of the Second Presbyterian Church, over which Rev. Nathaniel R. Snowden was installed pastor on October 5th, 1805. From this beginning has been evolved at least thirty thoroughly organized churches of like faith in the territory embraced by the Mother Church.

The Protestant Episcopal Church stands third in succession among the family of Protestant Christianity in Pittsburgh. No regular parochial was organized until 1805, although in 1797 a company of people brought up in the faith invited the Rev. John Taylor to officiate as their minister. An act of corporation was granted to Trinity Protestant Church, and in the same year the congregation began the erection of a brick building on the triangular piece of ground at the intersection of Wood street and Sixth avenue with Liberty street, Presley Neville and Samuel Roberts being chosen wardens, with Nathaniel Irish, Joseph and Jeremiah Barker, Andrew Richardson, Oliver Ormsby, Nathaniel Bedford, George W. McGonigle, George Robinson, Robert McKee, Alexander Laughlin, William Cecil and Joseph Davis as vestry men. Worship was maintained in this building, which became

known as the "Round Church" from its circular form, until 1825, when the building so familiar to Pittsburghers as Old Trinity on Sixth avenue was erected and consecrated by the Rt. Rev. William White, D. D., Bishop of Pennsylvania. Rev. John Taylor continued in the rectorship of the church until 1817, when he was succeeded by Rev. Able Carter. This church has enjoyed the services of some of the most prominent clergymen of that faith in this country, among others Rev. John H. Hopkins, afterwards Bishop of the Diocese of Vermont, and Rev. George Upfold, D. D., who was rector from 1831 to 1849, when he became Bishop of the Diocese of Indiana; the Rev. Scarborough, Bishop of New Jersey. This church is the mother of many large and prosperous churches of that order in Pittsburgh and Allegheny, and is to-day ministered to by the Rev. Samuel Maxwell.

During the French occupation of this spot a Catholic chaplain ministered here but he retired with the French. As the population began to increase, the small number of Catholics were ministered to from 1787 to the end of the century by priests passing west to Kentucky and other places. The population did not contain more than fifty practical members, with perhaps as many more nominal, at the beginning of the century, who were from time to time visited by a priest from Westmoreland county; the first resident priest, Rev. W. F. X. O'Brien, who arrived in November, 1808, and in the same year the first church was begun. The first visit of a bishop was that of the Rt. Rev. Michael Egan, of Philadelphia, in August, 1811. The place was first under the ecclesiastical of Quebec, then of London, England, next of Baltimore, and later of Philadelphia, till July, 1843, when the See of Pittsburgh was erected and the Rt. Rev. Michael O'Connor named first bishop. The statistics of the two cities were then, one bishop, four priests, one cathedral, two churches, one orphan asylum, and a Roman Catholic population estimated at 11,000 souls. The See of Allegheny was erected January 11th, 1876, but the administration of it was reunited to that of Pittsburgh August 3d, 1877. The work done by this denomination to-day is an extensive one, and number besides its cathedrals, churches, and chaples, parish schools, academies, hospitals, orphan asylums, homes for the aged, and reformatory institutions, under the jurisdiction of this See. The Roman Catholic population, which is now estimated at 87,000 souls, increased slowly but began to grow apace and received its greatest impulse from the rapid developments of our manufactories, especially since the beginning of the late war, as in many industries a large part of the foreign working population come from Roman Catholic countries. The large number of churches in which from two to six masses are celebrated every Sunday, are often incapable of accommodating those of this faith. A constant demand is made either for enlarging the churches or building new ones. The influence of this church has not unfrequently been exerted effectively where civil law was little regarded by the large foreign element of that faith which continually seeks employment here with but the one idea of accumulating a little money with which to return to their native land, and have little or no respect for our civil authorities. It is not possi-

ble to follow in this limited space the history and good work done by the twenty-five denominations in the city and their two hundred churches. The Methodist church which began in weakness to sow the seed is now foremost in zeal and membership, and is followed closely by the Baptist and Lutheran and United Presbyterian.

It is much to the credit of Allegheny county to say that the number of those professing religion to those who do not is greater to-day than at any time in our history. Among the many names which are still reverently cherished as promulgating the truths of the gospel, are Robert Bruce and John Black. The former a Scotchman and the latter a Scotch-Irishman. Robert Bruce was a seeder, as the first offshoot of the Kirk was called in those days, and an Edinburgh graduate. He was born February 20th, 1776, and died June 14th, 1846. As the first principal of the Western University and second pastor of the First U. P. Church, Rev. Ebenezer Henderson was the first, and as a divine of that severe orthodox type now not so frequently observed, the memory of Dr. Bruce is one of Pittsburgh's favorite reminiscences. Dr. John Black was his cotemporary and successor at the university, was another divine of the olden style, that of the gloomiest Calvinistic type. Dr. Black was for many years pastor of the Reformed Presbyterian Church, and was ordained in the old Court House in 1800. Rev. Dr. Black was a graduate of Glasgow University, and died in 1849 in the 81st year of his age.

The first Baptist Tabernacle was a low frame edifice on Grant street. The first Methodist worship was held within the enclosure of old Fort Pitt. The first regular Roman Catholic Church was on Liberty street, near the old canal. The most eminent of the Romish priests who upheld the teachings of Rome was the Rev. Charles B. Maguire, for many years the spiritual guardian for the cure of souls of St. Patrick's Catholic Church. It was under his consecration that the corner-stone of St. Pauls Cathedral was laid, before mentioned in the general history of the county, on June 24th, 1829.

There are now in Pittsburgh and Allegheny cities alone some 251 churches, of which 15 are Baptist, 56 Roman Catholic, 4 Congregationalist, 6 Disciples, 17 Episcopal, 17 Evangelical Lutheran, 33 Methodist Episcopal, — African Methodist Episcopal, 10 Methodist Protestant, 30 Presbyterian, 26 United Presbyterian, 5 Reformed Presbyterian, 5 Evangelical Association, 2 Cumberland Presbyterian, 4 Reformed Church of the United States, 7 United Evangelical Protestant (German), 4 Jewish, and 6 miscellaneous.

Schools.

In any account of education in Allegheny county the Quaker, James Kenny, whose journal in 1760-61, written at Fort Pitt, has been several times quoted from, must be mentioned again, as fixing the date when teaching of the young was first begun at Fort Pitt.

In "12 mo., 4," he writes: "Many of ye inhabitants have hired a school master, and subscribed about sixty pounds for this year for him, and he has about twenty scholars." This was in 1761, and in that year, it is to be assumed, the

first seed of public assessments for the payment of school expenses was sown, which finds its modern development in the school tax.

The growth of schools from that time until the beginning of the present century is difficult to trace. In a public list in 1808 of the "master workmen" in each particular branch of business carried on in Pittsburgh, twelve school mistresses are mentioned; and about this time an advertisement in the *Gazette*, before mentioned in the pages treating of the general history of Allegheny county, announces that a Mrs. Pride has opened a school to teach certain accomplishments.

The Pittsburgh Academy was chartered in 1787 and in 1819 it became the Western University. There is no record of its early professors but in 1810 it was in charge of Rev. Joseph Stockton and Drs. Swift and McElroy. Dr. Stockton was the author of some text books that were in general use the first half of the present century. Later on among the professors of the institution were Father Maguire and Drs. Bruce and Black who, although they differed on religious matters, were the closest friends.

In 1799 there was a Pittsburgh Classical Academy taught by Tierney and Cal-
lan. Their school was in a building opposite the Exchange Bank. In 1819 Mr.
Cole taught a school on Sixth street where the Hotel Anderson now stands, and
Daniel Bushell and William McCleary taught in the Court House. In 1821, Rev.
John Campbell taught an ungraded school over Lecky's blacksmith shop on Vir-
gin alley and later opened a high school on Smithfield street near Sixth. About
this time there was a school in a frame building near the Lewis block in charge of
V. B. Magahen, and Daniel McCurdy and a Mr. Moody taught in an academy on
the corner of Fourth avenue and Ferry street. In 1821-2 Mr. McClurkan kept a
school in a frame building on Fifth avenue opposite Masonic Hall. In the same
year David L. Brown had also a school in his dwelling on Second avenue between
Wood and Market streets. In the time from 1823 to 1830 a number of teachers
came to Pittsburgh. One of these was a Mr. Carr who had a school in a small
frame building on Hay Scale alley between Third and Fourth avenues. At this
time other schools in the city were taught by Mr. J. Dumars, Mr. Richmond, and
Rev. John Winters. This last named taught in the Baptist Church on the lot now
occupied by Kaufman's building.

In 1832 Mr. Daniel Stone and his sister opened a Young Ladies Seminary in Bishop Hopkins' residence. The following year a high school upon the site of the English Block, on Fourth avenue, was opened by Mr. John Nivens.

In 1832 Mr. Caskey taught a school in the upper story of a blacksmith's shop which stood on the lot now occupied by the Vandergrift Block. As the city increased in population the schools became more numerous than is possible in this limited space to mention. At a session of the legislature in 1832 numerous petitions ($12\frac{1}{2}$ per cent of all the voters in the state) asked for a repeal of a school law that had been passed in 1834 and quite a number of the petitioners were obliged to make their mark, not being able to write their name.

Immediately after the passage of the free school law each of the four wards, North, South, East and West, then constituting the city of Pittsburgh, approved

the measure and took steps to put its provisions into effect. The county bought a lot on Ferry street, upon which they erected a building and opened a school for the education of the children of the very poor. The First Ward School Board (Duquesne) purchased this in 1836 or 1837 and opened a public school under the law of 1834. This is believed to be the first property owned by a school board under this Act. The building is still standing.

The Second ward (South) opened the first public school in that district on the 11th of September, 1835, in the old carpet factory near the corner of Smithfield and Water streets.

The Third ward (Grant) erected the first public school building for that district in 1836 on the corner of Diamond street and Cherry alley. The present building at the corner of Strawberry alley and Grant street was said, when completed, to be the best school building in the United States, (1852).

The first public school in the Fourth ward (North) was opened in an old building on the corner of Duquesne way and Seventh street.

This school continued there from 1835 to 1838, when it removed to a building erected for it on the same street near Penn avenue.

In 1836, when the Fifth ward (now Ninth and Tenth) was added to the city, a school was opened in this ward in 1837, in rented rooms, where it remained until 1842, when it removed to two school houses built for it, one on Pike street, the other on Liberty street.

The Sixth ward (Forbes) becoming a part of the city in 1846. the first school building was erected on Ann street in 1848, and the small building on Second avenue was built in 1851.

The Seventh and Eighth wards (Franklin) became a part of the city in 1845, and the first school was opened in the present building on the 11th of May, 1847.

The Eleventh ward became part of the city in 1846, and a school building was erected in 1848 on Green and Linton streets.

The Twelfth ward (O'Hara and Springfield) became part of the city in 1846, and although there was a small school building, a public school building was erected in 1848 upon the corner of Twenty-fifth and Smallman streets.

Almost all of these early schools have since moved into new buildings, and are differently called than at the time of their opening. As many of the public schools are of such recent date it is not of interest to the general reader nor as yet of sufficient historic value in a general work to mention at length.

It is said in the minute book of the Peebles township school board that the people of the East End were the first to avail themselves of the privileges of the free school act.

Among the names of those who worked to build up the free school system in this vicinity are John Kelly, J. B. D. Meads, Isaac Whittier and George F. Gilmore, who organized the first free schools in Allegheny county; later on we have the names of S. F. Covell, Andrew Burtt, D. C. Holmes, James M. Pryor, Henry Williams, James Newell, Lucius Osgood, W. W. Dickson and Philotus Dean. The

free school system that Pennsylvania adopted over half a century ago under so much opposition has steadily grown in favor until free education is offered to the children of all the thirty-eight States in the Union.

In 1835 George F. Gilmore opened the first public school in Pittsbrgh, in rented rooms on the corner of Irwin (now Seventh) street and Duquesne way, enrolling five pupils.

In 1856 there were 109 teachers and 6,724 pupils, and in 1886 there were 557 teachers and 27,959 pupils. The school property of the city is valued at over \$2,000,000.

Newspapers.

Longfellow has tersely written "Let the dead past bury its dead," and to review the past of the newspaper world of Allegheny county, is but to erect some pages of tombstones to the memory of a hundred or so of newspapers dead and gone, on some of which might be aptly inscribed the famous epitaph, "Since so soon I'm done for I wonder what I was begun for." Many of them were launched on the sea of journalistic venture by able hands and talented journalists, but their wrecks lie thick around. In the centennial number of the *Pittsburgh Gazette*, (1886,) is an historic sketch of the newspapers from 1786 to 1850, prepared by William C. Anderson, editor of that publication, himself a veteran in journalism who won his spurs over forty years ago as a reporter. This article makes mention of fifty-two publications, daily, weekly, and monthly, which succumbed to financial storms and the neglect of an unappreciative public. Of these born but to die since that date it can be said they were many. With newspapers the survival of the fittest is an active law, and at no time more so than in these days when the publication of an acceptable newspaper means not only the constant expenditure of large sums of money, but a corps of the brightest minds of the day, and indefatigable workers. The newspapers of to-day in Allegheny county are an illustration of that law, and some of them in their lives have assisted at the death bed of many defunct publications, and with a sort of newspaper cannibalism absorbed their remains.

Printing has been styled "the art preservative of all arts," and the newspaper might be called the never ceasing historian, for in their files is recorded daily continuance of all things, from Farmer Jones' tall stock of oats to the events that change the whole current of human life; the instantaneous photograph of the hour, they become in years the phonograph from out of whose colums come the tones of censure or praise, the voice of warning or of commendation from the past.

The newspaper of to-day, whose files reaches the political, social and mercantile voices of Allegheny county's existence from its beginning, is the *Pittsburgh Commercial Gazette*, established in 1786, two years before the organization of the county. Issued two years previous to the election of George Washington, it is noteworthy that it has participated in every presidential canvass and election. It has always been a political journal, and it may be said the advocate of the same party principles through the various ancestry of editorship which has controlled

its columns, and to-day is thoroughly "Republican" as it was "Whig" years ago, and earlier "Federal." Established 1786 by John Scull and Joseph Hall, it was a journalistic venture in the fullest sense of the word. At what time Joseph Hall retired from the proprietorship does not appear, but Nicholas Scull retired in 1816 and his son, John I., succeeded.

From 1818 the paper was published by John I. Scull and Morgan Neville, and was issued as a semi-weekly until March 2d, 1820, when the paper was issued as a weekly again. In March 20th, 1820, Scull and Morgan dissolved partnership. They were succeeded by Eichbaum & Johnston, as publishers, Morgan Neville being retained as editor. The paper was enlarged and its title changed to *Pittsburgh Gazette and Manufacture and Mercantile Advertiser* June 5th, 1820.

About 1822 it passed into the hands of D. & M. McLean who continued its publication until September 18th, 1829, when they were succeeded by Neville B. Craig. The secondary title of the paper had been dropped about 1825-6. The paper was issued as a weekly until September 23d, 1823, when it again changed to a semi-weekly.

September 28th, 1828, a separate weekly edition was begun. The first issue of the *Gazette* as a daily was on July 30th, 1833. On September 16th, 1835, Mathew Grant became a partner, and the business style of the firm was Craig & Grant. July 1st, 1840, Alex. Ingram, Jr., purchased the paper. In 1841 D. N. White purchased it from Mr. Ingram and changed the issue from an evening to a morning one, associating with him B. F. Harris; the firm style was White & Harris. On April 1st, 1846, Erastus Brooks purchased the paper and took charge as proprietor and editor. June 7th, 1847, the firm style was Brooks & Co., S. Haight having become a partner. July 1st, 1848, Mr. White again purchased the paper and continued its publication until 1859, when he sold it to S. Riddle & Co., (Samuel Riddle, Russell Errett, James M. Macrum, and Daniel L. Eaton.) In 1864 "The Gazette Association" was formed and purchased the paper from S. Riddle & Co. May 14th, 1866, the establishment was purchased by Penniman, Reed & Co., (F. B. Penniman, Josiah King, N. P. Reed, Thos. P. Houston.) Mr. Penniman retired November 1st, 1870, and February 1st, 1871, Henry M. Long was admitted, and the firm style became King, Reed & Co. July 1st, 1872, Mr. Long retired, his interest being purchased by George W. Reed and D. L. Fleming. December 28th, 1875, Thos. P. Houston died, and Mr. Fleming in February, 1876. The surviving partners purchased their interest. December 18th, 1882, Josiah King died, and January 10th, 1883, the remaining partners purchased his interest, and the firm style was changed to Nelson P. Reed & Co. Mr. J. P. Reed being admitted to the partnership. On April 1st, 1883, Frank M. Higgins became a partner. Mr. Higgins died November 1887.

Such are the various business changes of a hundred years in the pioneer newspaper of the West, which celebrated its centennial now over two years since—a notable journalistic life in which it has absorbed three prominent rivals in the same school of politics: In 1844, the *Daily Advocate and Advertiser*, the Com-

mmercial Journal in the '60s, and the *Commercial* in February, 1877, when its title was changed to the *Commercial Gazette*.

The *Commercial*, the last absorption of the *Gazette*, was established in 1863 as the *Pittsburgh Daily Commercial* by the Commercial Printing Company. Thomas J. Bigham was editor; John B. Kennedy, associate editor. John C. Harper was also editor, and N. P. Sawyer was business manager. It was purchased by the Pittsburgh Newspaper and Printing Company, an association of business men of the city who entered the field of journalism as a stock company, with a capital of \$50,000, in 1864. C. D. Brigham became its editor, and R. D. Thompson its business manager. A new charter was obtained in 1868, and the title changed to the Commercial Printing Company. About this date Mr. Brigham secured a majority of the stock, and controlled the paper financially, as well as editorially. In December, 1872, Robert M. Mackey bought the controlling interest, and Mr. Brigham retired in 1873. December 25th, 1873, Russell Errett became managing editor, and M. L. Egan business manager. He was succeeded in 1875 by Edward Abel, and, as before stated, it was absorbed by the *Gazette* in 1877.

The second paper whose origination goes further back in the century is the *Daily Post*. Descended from a line of Democratic journals, the gradual process of newspaper evolutions has resulted in a journal purely Democratic, without tinge of any other political belief in its blood, so to speak. The root of its ancestry was the *Commonwealth*, established by Ephriam Pentland, July 24th, 1805, which was, to some extent, succeeded by the *Mercury*, established by James C. Gilleland in 1811. In 1812 Joseph M. Snowden purchased the *Mercury*, of which he continued publisher until 1830, when Joseph M. Snowden took charge, until 1835, and William H. Smith and Robbert Morrow were his successors. The *Allegheny Democrat* was established in 1824 by John M. Farland; after his death it being published by Leonard S. Johns. The *Democrat* passed through several hands, being in 1837 the *Allegheny Democrat and Workingman's Advocate*, W. C. Stewart, editor, until in 1841 it was united with the *Mercury*, and both papers were published by W. H. Smith, under the title of *Mercury and Democrat*. Some time about 1831 William B. Conway established the *American Manufacturer*, which was continued by him, and afterwards by Thomas Phillips, until 1842, when the *Mercury and Democrat* and the *Manufacturer* were merged into the *Weekly Mercury and Manufacturer*, and on the 10th of September, 1842, the *Daily Post* was issued by Thomas Phillips and William H. Smith, under the firm style of Phillips & Smith. The paper afterwards passed into the proprietorship of Bigler, Sargent & Bigler, who were succeeded by Leckey Harper. During his proprietorship John Layton, who was business manager, became a partner, and the firm style was Harper & Layton. John Layton died of the cholera in 1854, and Mr. Harper subsequently sold the paper to Gilmore & Montgomery (George F. Gilmore and —. Montgomery). James P. Barr, who had been originally a clerk in the establishment, obtained the control of the *Post* from Gilmore & Montgomery, and the firm ultimately became James P. Barr & Co. (James P. Barr, Joseph S. Lare,

William Schoyer and E. A. Myers). Joseph S. Lare dying during the partnership, his interests were purchased by the surviving partners, the firm style continuing unchanged. James P. Barr died September 21, 1886. Shortly before Mr. Barr's death, on September 1, 1886, the *Post* was incorporated into the "Post Publishing & Printing Company," of which Albert Barr is president, and William Schoyer, treasurer and business manager. The *Post* was the last of the large journals of the city to change its folio form to that of a quarto, influenced in its adherence to old-time habits, perhaps, by its Democratic instincts. Several attempts have been made during the *Post's* existence to establish rival Democratic journals, but the *Post* has continued the even tenor of its way, prospered and prospering, quietly watching the gradual decline and always sudden death of its Democratic compeers. Under the editorship of James P. Barr the *Post* obtained great influence with the leaders of the Democratic party, and Mr. Barr was, in 1862, elected Surveyor General of the State of Pennsylvania.

The *Presbyterian Banner*, which is the oldest religious paper in the United States, now owned by Rev. James Allison and R. Patterson, Rev. James Allison editor, had its origination in the *Weekly Recorder*, which was established July 5th, 1814. It was originally printed in Chillicothe, O., by Rev. John Andrews. Removed to Pittsburgh February, 1822, and name changed to *Pittsburgh Recorder*. January 10, 1828, it absorbed the *Spectator*; January 15, 1829, the *Christian Herald*, Rev. S. C. Jennings; 1833, *Pittsburgh Christian Herald*, Rev. J. D. Baird; 1838, *Presbyterian Advocate*, Rev. Wm. Annan; November 17, 1855, *Presbyterian Banner and Advocate*, Rev. D. McKinney, D. D.; March 10, 1860, changed to *Presbyterian Banner*. February 3, 1864, it passed into the ownership of Rev. Dr. James Allison and R. Patterson.

The *Pittsburgh Conference Journal*, edited first by Rev. Charles Elliott, who was succeeded by Rev. Wm. Hunter and Rev. Charles Cooke, was established in 1833. In 1841 it had been changed to the *Christian Advocate*, and has since been published under the auspices of the M. E. Church.

The Pittsburgh *Freiheits Freund* (German) had its origin in Franklin county, Pa., at Chambersburg, where it was established by Henry Ruby. It was a weekly, Victor Scriba editor. In 1834 Mr. Scriba purchased Mr. Ruby's interest. In 1837 Mr. Scriba removed the paper to Pittsburgh. In 1844 he began the publication of a tri-weekly, and in 1847 he issued it as a daily. In 1848 Mr. Louis Neeb, who, with his brother William, had been apprenticed in 1836 at Chambersburg, entered into partnership with Mr. Scriba. In 1850 Wm. Neeb purchased Mr. Scriba's interest, and the firm became L. & W. Neeb, under which business style the paper has ever since been published. It is a strong advocate of the doctrines of the Republican party.

In 1839 the *Western Recorder* was established. This paper, which subsequently became the *Methodist Recorder*, resulted from the action of the Ohio and Pittsburgh Conferences of the Methodist Protestant Churches in favor of a Western Church paper, and Cornelius Springer was engaged to establish and conduct the paper. It

was first published at Meadow Farm, Muskingum county, O., July, 1839. The name of the paper was twice changed, first to *Western Methodist Protestant*, and then in 1866 to *Methodist Recorder*. The paper was removed to Pittsburgh in 1871, the first number issued here bearing date November 15, 1871.

The *Chronicle* was issued as a weekly in May, 1841, by R. G. Burford. September 8, 1841, as the *Daily Morning Chronicle*, edited by J. Heron Foster and Wm. H. Whitney. September, 1843, by Whitney, Dumars & Wright. In 1846 Wright sold his interest to James Dumars. In 1847 or 1848 the firm became Dumars & Dunn; in 1851 Barr & McDonald; in 1853 Mr. Barr was succeeded by Rev. Samuel Babcock. Kennedy Brothers purchased the paper in 1854, and sold to Charles McKnight in 1856. In 1863 Joseph G. Siebeneck took an interest with McKnight, and in 1864 McKnight retired, and the firm became Siebeneck & Collins. Collins retired in 1874, and Siebeneck was sole proprietor until 1884, when the paper was merged with the *Evening Telegraph*.

The *Preacher*, Associate Reformed Presbyterian, semi-monthly, was established in 1842 by Rev. John T. Pressly, D. D., succeeded by Rev. David R. Kerr, D. D., in 1845. In 1848 changed to a weekly. In 1854 continued as the *United Presbyterian* by Dr. Kerr. This paper absorbed the *United Presbyterian and Evangelical Guardian*, of Cincinnati, about 1858, the *Westminster Herald*, of New Wilmington, Pa., in 1868, the *Presbyterian Witness*, of Cincinnati, in 1870, the *Christian Instructor*, of Philadelphia, in 1858. Rev. Dr. Kerr and H. J. Murdoch are the present proprietors.

The first issue of the *Pittsburgh Catholic* is under date of March 16, 1844. The paper was started by P. F. Boylan and conducted by him until July, 1847, when it was purchased by the present proprietor, Jacob Porter. The word "Pittsburgh" was dropped from the title some years ago. The paper is the organ of the Catholic Diocese of Pittsburgh, but is individual property.

In 1846, J. Heron Foster began the publication of the first successful penny paper in the west under the title of the *Daily Dispatch*. There had been a paper with a similar title issued in July, 1833, by John F. Jennings, which was the first penny paper in Pittsburgh. The paper was short lived as but seven numbers were printed. The *Daily Dispatch* of J. Heron Foster was, however, destined to a long life, verging now close on its semi-centennial year. It was a very small sheet when first issued, its columns containing not much more matter than is now published in two pages of the present eight page quarto edition. In 1849 Reese C. Fleeson purchased an interest which he retained until his death in 1863. In 1865, O'Neill & Rook purchased half the concern, and at the death of Mr. Foster, in 1867, became sole proprietors. Mr. Dan'l O'Neill died in 1877, and Mr. Rook in 1880. The controlling interest has since been held by Mr. E. M. O'Neill, who is president of The Dispatch Publishing Co., incorporated June 5, 1888.

This journal has always been independent in its editorial utterances and is at all times a reflex of the independant sentiments of the community in all local public questions as well as national.

Orville Phillips, formerly mayor of the city of Allegheny and long one of the board of inspectors of the Western Penitentiary, was for some years its business manager, having purchased an interest. He died November 12, 1884, and his son Bakewell Phillips, succeeding to a part of that interest in the paper, is now its treasurer and business manager. In September, 1883, the *Dispatch* began the publication of a Sunday edition (16 pages quarto) which at once acquired great popularity.

In 1864, on December 11th, the first number of the *Sunday Leader* was issued by John W. Pittock, whose penchant for journalism was acquired as a news-boy—which humble business beginning he did not forget, having established the custom at Pittsburgh of a Years dinner to the news-boys of the city. The *Sunday Leader* fought its way to success through much prejudice against a Sunday paper, and other obstacles. The result of the first number was but forty-five dollars against an expenditure of two hundred and sixteen dollars, while the second brought but eight dollars and forty-three cents with an unreduced expense. The paper became a success and to-day no paper is looked for with more eagerness than the *Sunday Leader*. It was not until October, 1870, that the *Evening Leader* was issued, and sprung at once into general favor through its independent spirit and vivacity. Previous to this the edition of the *Sunday Leader*, having so largely increased that it called for faster presswork and Mr. Pittock purchased a Bullock press at the cost of \$22,000 and is thus entitled to the honor of being the first to introduce the steyrotyping process for newspapers in the west. While this and other improvements were going on the business style of the publication was changed to Pittock, Nevin & Co. (John Pittock, Robert P. Nevin, John I. Nevin, E. M. Nevin, Jr.) on July 31st, 1870.

Since then the business style has been changed to the Leader Publishing Co. The *Evening Leader* was the first to introduce special columns under the charge of distinct editors, with the terse headings of "All Sorts," "Personals" and "Brevities" a feature in journalism that became popular and was subsequently made in other journals special features under other heads. The increase of the *Sunday Leader* called much rivalry into being but they died shortly for want of support until

In 1872, the *Evening Telegraph* was projected by a number of the professional and business men of the city during the political campaign of that year. It did not, however, make its appearance until April, 1873. The association was organized under the title of The Pittsburgh Evening Telegraph Publishing Company. H. B. Swope was the first editor of the journal, John C. Harper, managing editor and Thos. MacConnell, Jr., business manager.

The *Telegraph* continued to be published under its first charter until December, 1876, when the paper passed into the proprietorship of Ralph Bagaley. In July, 1874, H. H. Byram, Robert H. Campe and C. S. Huntingdon purchased the establishment from Mr. Bagaley and organized a firm under the business style of the Pittsburgh Telegraph Company and continued the publication of the paper with

H. H. Byram as editor. In December, 1883, the *Chronicle* was merged in the *Telegraph* and a stock company was formed under the style of the Pittsburgh Chronicle Telegraph Company; H. H. Byram continuing editor, and Rob't H. Campe being manager and treasurer. The paper in its editorial conduct is what may be termed independent Republican, and in its general tone, refined, literary and progressional.

In 1884 the *Telegraph* absorbed the *Chronicle*, whose history has previously been given.

The latest daily journals in the field for public favor of Pittsburgh are the *Pittsburgh Times* and *Evening Penny Press*. The *Times* was established in — by Robert P. Nevin as a morning paper, although under his editorship a spirited journal, independent in its tone and spirited in its editorials, it did not achieve success, however, much it deserved it. On — — — it passed into the ownership of The Times Publishing Company, when it was issued as a penny morning paper. C. D. Brigham, in former years proprietor and editor of the *Commercial*, took editorial charge of its columns. Compact in its articles, terse in its editorial diction, and comprehensive in its matter, it has achieved success, and is a willing and able advocate of the Republican party.

The *Evening Penny Press* was established in — by the Penny Press Publishing Company. It is in an eight page quarto sheet and Republican in its general policy, although given to independent editorials where its views conflict with "rings and party edicts." It has become one of the popular sheets of the city, and ably conducted has won success. These papers of latter origin being of but few years, their history is necessarily brief.

Among the weeklies of the day is the *Sunday Globe*, the first number of which was issued June 4th, 1876, J. W. Breen editor and proprietor, and has been a success being now in its twelfth year.

The *East End Bulletin*, established in — by John Black, occupies a field all its own. Under the editorship of Fred Muller, it is not only a brilliant society journal of a higher class but a clever literary sheet. Mr. Black, who begun his journalistic career as an occasional reporter on the daily papers, started the publication as a small semi-local society news and advertisement sheet in the East End of the city. Its standing, typographical appearance, and literary merit tells the story of the business ability, perseverance, and publishing tact which has pushed the journal to success.

The *East End News* another new comer in the same field is making vigorous strides in the race.

The *Labor Tribune* is a journal devoted to the advocacy of the Labor Reform party. Established in — by Thos. A. Armstrong and Thos. Telford, and has done brave battle for its cause.

The *Alleghenian*, published and edited by John B. Kennedy in Allegheny city, is the representative in that city of what the *Bulletin* is in Pittsburgh. The name is one that originated under a previous publication of several years since by Mr.

Kennedy and his brother, now dead. Mr. Kennedy's connection with journalism began with his duties as a carrier boy on the *Evening Gazette* in July, 1833. He was afterwards connected with other publications, and was associate editor of the *Commercial Journal* of 1863. His long career in publication and the ripened editorial judgment shows in the conducting of the *Alleghenian*.

These journals are the more representative journals of Allegheny county's press of to-day. A mention of all the publications must, as in the case of many other business interests of the county, be foregone. It has not been possible in this volume to tell of all that makes up the county's industry. The pages have already far overrun those contemplated in the constant temptation to tell of one more interest or branch of industry. Much as has been told, enough remains unmentioned to fill, if but even tersely expressed, another volume, and with the press as with other matters, necessity, not inclination, dictates the course. Enough has been said, however, to show that the "fourth estate" has kept pace with the progress in all other interest in Allegheny county's hundred years.

Printing.

If the spirit of Guttenberg and his associates could flit through the printing houses of the world to-day and witness not only the wonderful presses and unique fonts of type, but the typographical beauty of the work done, they would stand amazed at what had resulted from their wooden type and rude press. In that progress Allegheny county has kept pace, and in the growth of other branches of business moved abreast with them. There are to-day in Allegheny City and Pittsburgh alone 74 printing houses. To give the history of them all cannot be done, but to connect the past with the present in this industry, as has been done in others, a brief genealogical paragraph is indulged in, in that it, with the printing of newspapers, dates back to the hundred years of the county's existence.

Cramer's Almanack, from which quotations have several times been made in these pages, was the work of one of the "printing offices" of that date, and of which a direct successor is to-day famous elsewhere than in Pittsburgh for its beautiful typographical work.

Zadoc Cramer was in business in this city in 1801. He was succeeded by Cramer & Speer and Cramer, Speer & Eichbaum; then William Eichbaum; in the following year, 1816, by Eichbaum & Johnston, continuing in business until succeeded by Johnston & Stockton in 1824. Mr. Eichbaum retiring, except so far as their paper mill at Fallston, Beaver county, was concerned, together with an extensive real estate interest there and in New Brighton. He remained a co-partner in these until some time in the '50s. Samuel R. Johnston, of the firm of Johnston & Stockton, was the father of S. Reed Johnston. William Eichbaum was the father of Joseph Eichbaum, of the present firm of Jos. Eichbaum & Co. In 1850 Mr. W. S. Haven succeeded Johnston & Stockton, and after several changes in the firm name the plant was vested in W. W. Lewis & Co., from whom Jos. Eichbaum & Co. purchased in 1881, thus making them the actual successors of Zadoc Cramer, of 1801.

Another printing house which has a direct connection with the fathers of the art in Allegheny county is that of A. A. Anderson & Son, which is the direct successor of the office of Butler & Landin of 1810. The material of this office was brought across the mountains on pack mules, and an old Ramage press, which was part of the outfit of the office, was sometime since in existence in Butler county, and possibly so still, it having been sold by A. A. Anderson some time after he succeeded to the outfit, a part of which was in the office of A. A. Anderson & Son. In 1825, Mr. Landin having died, Mr. Butler removed to Ravenna, Ohio. A. A. Anderson began his apprenticeship under Mr. Butler on the 8th day of August, 1825. Mr. Butler came back to Pittsburgh in 1827, and Mr. Anderson accompanied him, and followed the business as boy, journeyman and proprietor sixty-three years until his death, on May 18th, 1888, at the age of 78. He was at the time of his death the oldest job printer in the city, and his office in its succession from Landin & Butler could claim over seventy-five years of age. Mr. Anderson was a veteran in the profession as well as in years; a man of unexceptional purity of life and honesty of purpose, unobtrusive in his habits and retiring in his business habits. He was not widely known personally. Envious of no man's good fortune, he was remarkable in that his more intimate associates never heard him reflect upon the purpose or actions of others, nor make use of vulgar or profane language. He was one of those rare characters that blossom unknown, but leave behind a memory fragrant with virtues. Since Mr. Anderson's death the succession to the firm continues in his sons, who are thus, with the exception of Jos. Eichbaum & Co., the oldest printing house in the city.

These two firms are the representatives of the early printing offices of the county, and as such are noted.

CHAPTER XXII.

Music, Art, and Benevolent Institutions.

From a wilderness to a community of five hundred thousand inhabitants, with all the surroundings of modern civilization in its most advanced form, is a long stride of progress. Music, art and architecture always keep step in the progress of civilization in its advances, and in the progress of Allegheny county from a wilderness to a community of five hundred thousand inhabitants there was no exception to the rule.

Music seems, from the earlier records, to have been quite in advance of the usual standard of frontier towns an hundred years ago. This is probably the result of not only the regimental bands attached to the troops garrisoned at Fort Duquesne, but to the wives and daughters of the officers of the regiments of English troops stationed at Fort Pitt, who, with their fathers and husbands, had received an education in Europe, and would enliven the monotony of a garrison town with concerts and their musical entertainments. This would naturally cultivate a musical taste in the settlers, and the records of eighty years since show that

it was enough to encourage the establishment at Pittsburgh, in 1812-14, of a piano factory; Charles Rosenbaum at that date advertising in the *Gazette* pianos of his own make for from \$250 to \$350 each, and offering to contract for the construction of grand pianos.

In 1811 Francis Masi advertises a concert, and in 1812 Mr. Webster a concert of choice musical selections.

In 1817 H. G. Pius "begs to announce that he will give lessons on piano, violin and guitar."

In 1819 a concert for a charity relief fund is advertised to be given at the First Presbyterian Church by a juvenile choir. From about this date concerts as a fashionable amusement and teachers of music rapidly increased. William Stanton, organist of Trinity Church, advertises in 1824 to give lessons on piano and organ at \$8 a quarter, three lessons a week. About this time Wm. Evans, an Englishman, a plane-maker by trade, but a great enthusiast in music, and also a composer, came to Pittsburgh, and in 1826 advertises to give lessons at \$6 a quarter in singing. He was an active little body, odd in his costumes and noted for other peculiarities. He followed the making of planes, but also taught music, and organized several of the church choirs of the city. He mentions in his journal, which he kept quite fully but tersely, that he had assisted the Catholic Church in forming its first choir.

At about this period, from 1826 to 1830, the modern music store made its debut at Pittsburgh, although instruments and music had been dealt in as part of the stock of the general stores of that earlier date. About 1829, W. C. Peters, who had been a band master in the English army, and came to Pittsburgh from Canada, opened a music store on Fifth avenue, in 1831, at or near what is now No. 33. He associated with him W. D. Smith and John H. Mellor under the firm style of Smith, Peters & Co. The firm subsequently became Smith & Mellor, Mr. Peters going to Louisville. Afterward the firm style was John H. Mellor & Co. and in 1844, John H. Mellor alone. In 1863, on his death, his son succeeded him in the business. (C. C. Mellor.) And subsequently associating with him H. H. Hoene the firm style became Mellor & Hoene, the present firm, whose lineage runs back for nearly sixty years in direct succession.

In 1832 Henry Kleber came to Pittsburgh when quite a boy and has exerted a large influence on the progress of musical education in Allegheny county. He began teaching music, in 1837, at a private school kept by Mr. Lacy where St. Pauls Episcopal Church now stands. The location was for many years called, locally, Lacyville. The school was afterward broken up by the elopement of one of the young lady boarders. Later Mr. Kleber taught at a school of a Mrs. Halstead, at what is now Superior station, on the P. F. W. & C. railroad, and subsequently began giving private lessons as a profession. While thus engaged he helped organize a musical society of the members of the first families of the town who frequently gave concerts in aid of charitable objects. He also helped organize the brass band of the Duquesne Greys, said to be the first band in Allegheny county.

In 1839-40 Mr. Kleber opened a piano salesrooms at 103 Third avenue, and subsequently associated with him his brother Augustus, under the firm style of H. Kleber & Bro., which has so remained for over forty years.

The genealogy of these two firms connect the past and the present, covering, as they do, a period of sixty years, while from Wm. Evans and Charles Rosenbaum, with his piano factory of 1812, the whole period of the hundred years of Allegheny county's musical progress is nearly covered.

In music, so in art. Of the early artists, if such there were who were native to the locality, they have left no impress on the times, either by works or in memories. Among the older features are family portraits, but they are the work of occasional artists, either imported from the East to do a special portrait, or on an accidental tour, staying in Pittsburgh awhile to pick up a few dollars with a "pot boiler."

About 1839-40, or perhaps a little earlier, native artists began to show themselves, although the "painter of pictures" for a livelihood did not rank as high in the estimation of the business men of that date as the painter of signs and doors and window panes, and the "struggling artist," to use a common phrase, struggled greatly. At about this time Blythe began painting his humorous pictures. Crude in design and execution, they were forcible in conception, and indicated that Allegheny county under more happy circumstances might have had the honor of a Hogarth, but one day "poor Blythe" was found dead in his studio, under circumstances that awakened suspicions that slow starvation hastened his end. Examples of his painting are now among the treasures of private collections. Along in the 40's came W. S. Wall, noted for the nice detail in the rendering of landscapes. After him, and in part contemporaneous, came A. S. Wall, whose work is characterized by boldness of touch, vigor of color, and broad artistic effect that makes it at all times a subject of regret that he should have abandoned the "palette and brush" for commercial pursuits. In the same year Hetzel came upon the art stage, notable from his first efforts for the tender feeling for nature and its spring and summer landscapes, delighting to portray woodland nooks and rocky forest streams. Also Jasper Lawman, with his varied genius for portraiture and landscape, conscientious in his rendering and successful in representation; and likewise Dalbey, in his specialty of portraits; also "Johns," notable for his vigorous treatment of animal subjects. And Woodwell, who, clinging to commercial pursuits, gives but half heart to the art wherein he shows great talent.

Thus from decade to decade the artists and art education increased until, in 1888, there are some twenty native artists in Pittsburgh, all of whom are more or less famous in their specialties. With their work grew an increasing love for art in the city and county, which led to the establishment of the Pittsburgh School of Design by Wm. Thaw, Chas. S. Clark, Henry Phipps, and other public spirited citizens, from which has graduated some notable artists of both men and women, and done much to cultivate an artistic taste in the community. With the growth of that, a distinct branch of business known as art stores, dealing in paintings,

artistic furniture, and similar goods, originated. Among the earliest of these was that of J. J. Gillespie, who began business in the manufacture of looking glasses, and in 1838 the firm was Gillespie & Kennedy. It subsequently became J. J. Gillespie & Co., (A. C. McCallum, A. S. Wall,) Mr. Gillespie dying in 1887. He gradually turned his attention to art goods as the demand increased, until at present the establishment is almost entirely an "art store," the original foundation of the business, mirrors, or "looking glasses" as they were in more primitive days called, being still a branch of the business. Samuel Boyd also, in 1865, established a looking glass manufactory which, under the same progress in art, became an art store, and is now carried on under the firm style of S. Boyd & Co. The influence of this gradual art education has shown itself not only in the paintings that occupy wall space in private galleries and parlors, but in the greater artistic style of the interior adornment of homes. In the architectural designs of buildings this art education is apparent. The contrast between the public buildings, homes, and business edifices, and those of even thirty years since, not to go back to the beginning of the century, is wonderful. Especially is it so in buildings for business purposes.

Time was when, even but twenty years since, that a four story building was thought imposing and its builders enterprising. To-day seven, eight and even ten-story edifices for business uses are a common feature on the business streets of Pittsburgh. The Hamilton building on Fifth avenue is a notable example in that as being the first of its height to be erected, it is also from its tall tower a resort for strangers who wish to obtain a view of the city. The new Court House, the Carnegie Library in Allegheny city, the Westinghouse offices, the Penn building, the Lewis block, and a dozen others mark the progress from the little squat two and three-story "stores" of fifty years since.

Music, art and architecture has gone hand in hand with the advance in wealth, manufacturing importance, and all other things in Allegheny county. To give a detailed account of this art progress would occupy chapters that might be filled with interesting reminiscences, but, as in the other divisions of this sketch of Allegheny county's hundred years, inclination must yield to necessity. Enough has been stated to form a swiftly passing panorama of the progress of the county in music, art and architecture, from a rude frontier village to the great community it now is.

Benevolent Societies.

Records show nothing in the very early years of the county of benevolent institutions if they existed. There were then, no doubt, as now the blind and the halt, poor souls, who needed refuge, homeless orphans, and those who needed the skilled nursing, tender care and practiced surgery of hospitals; but while tender hearts beat then, liberal hands gave, charities were bestowed and benevolence exercised, the county was too young for that evolution of advancing civilization that organizes charities and benevolent institutions. With all things else in the history of the county its day came.

In 1832 a meeting was held in the First Presbyterian Church, on the 17th of April, to organize an effort to establish an orphan asylum, of which mention is made in the general history of the county. From that time benevolent institutions and hospitals have multiplied, until there are fifty-two in Pittsburgh and Allegheny, not to mention the societies connected with the various churches, the result of fifty years' work. The records of their organization and final establishment show that they are chiefly the work of the women of the county. They have been the result of mite contributions, of the unpleasant work of soliciting subscriptions, of fairs and concerts, and frequently of the generous sums of yearly contributions and large special donations.

The Home for Incurables owes its building and endowment to the generosity of the late Miss Jane Holmes, and the Home for Aged Women and Aged Protestant Couples, at Wilkinsburg, are largely the results of her benefactions.

The Home for the Friendless was organized May 1st, 1861; Allegheny Ladies' Tract Society, 1843; Allegheny Relief Society, 1848; St. Josephs Orphan Asylum, 1853; Widows' Home and Tenant House, 1866; Ladies' Association of the Homœopathic Hospital, 1866; Temporary Home for Destitute, 1869; Women's Christian Association, 1869; Home for Aged Protestant Women, 1871; Christian Home for Women, 1872; Home of the Good Shepherd, 1872; St. Francis Hospital, Roman Catholic Orphan Asylum, St. Michael's German Catholic Orphan Asylum, Episcopal Church Home, Women's Christian Temperance Union, 1874; Home for Aged Protestant Couples, about 1880; Women's Christian Association of East Liberty, Children's Temporary Home and Nursery, Children's Country Home, 1881; Women's Fruit and Flower Association for Hospitals, Pittsburgh and Allegheny Orphan Asylum, 1832; Home of the Little Sisters, Society for the Improvement of the Poor, 1875; Home for Aged Colored Women, 1884; Home for Incurables, 1886.

These more prominent institutions and associations under the charge of the women of Allegheny county indicate its progress, and the work of the mothers, sisters and daughters of the men who have been building up the industrial establishments. The Roman Catholic institutions are cared for largely by the different Sisterhoods, while the Protestant ones by the women of all denominations, working to a common end in harmony. Some paragraphs could be justly indulged in to tell of the generosity of these women, the self-sacrifice and the years of exertion to place all of them in the effective condition they now are, but to mention a few would require the mention of all, for there are none of the members of the various boards and their officers that have not borne their share in the work. Chiefly and, in fact, almost entirely managed by a board of women, the result shows their efficiency.

Nor have the men of the county been laggard in the work of benevolence. The Homœopathic Hospital, the Western Pennsylvania Hospital, the Mercy Hospital, the Pittsburgh Infirmary, the Allegheny Prison Society, the Pennsylvania Institute for the Deaf and Dumb, the Pennsylvania Reform School, the

Allegheny County Inebriate Asylum, the Young Men's Christian Association, all tell their story of time taken from the absorbing demands of business in a county where the rate of progress of all business has been such as to leave few or no hours for the organizing and establishing of benevolent or reformatory institutions.

If Allegheny county has reason to be proud of her mechanics, manufacturers and business men laboring in its industrial fields, it has as great reason to be proud of its women and men working in the field of charity and benevolence.

Of the men, as said of the women, paragraphs could be written to tell of large handed generosity in this work. It is but just to say that industrious, conservative and frugal as are the great mass of Allegheny county's business men and mechanical workers, the voice of distress ever finds a listening ear and a helping hand, whether it come from the population around them or from some distant or nearer city, where some calamity has brought distress and suffering.

Masonic.

The existence of Masonry in Western Pennsylvania dates back to 1759. It appearing from the minutes of the Royal Arch Lodge No. 3, of Philadelphia, that John Hoodlass was "duly and lawfully entered, passed and raised at Fort Pitt in the year 1759, by our brethern John Maine, James Woodward, and Richard Ladly, all Royal Arch Masons," by which it appears that Free Masonry was practiced at Pittsburgh 124 years ago. There seems to be some doubt as to the existence of any regular lodge at Fort Pitt at that time, and it is presumed that it was under the action of the Military Lodge attached to the Royal Irish regiment then at Fort Pitt. The first regular lodge at Pittsburgh was No. 45, and is asserted to have been the first west of the Allegheny mountains. This dates back to December 27th, 1785.

The second was Ohio Lodge No. 113, of which Nathaniel Bedford, W. M., Isaac Craig, S. W., and Thomas Collins, J. W., were officers. This lodge is mentioned in *Cramer's Almanack* of 1809, where in an account of glass cutting at Pittsburgh, a chandelier cut by "an ingenious German, (Eichbaum,) formerly glass cutter to Louis XVI., late King of France," is mentioned as suspended "in the Ohio Lodge No. 113, in the house of Mr. Kier, Inn keeper." In 1816 Lodge No. 145 was held at Wilkinsburg, Wm. Hamilton, W. M., William Parke, S. W., James Johnston J. W. In 1819 the Milnor Lodge No. 165 was held at Pittsburgh, Wm. McCandless, W. M., William Steele, S. W., James Riddle, J. W. In 1817 Hamilton Lodge No. 173 was held at Lawrenceville, Walter Forward, Solomon Brown, Alex. Pentland, W. W. Fetterman, Nathaniel Fetterman were mentioned at this lodge. Among other citizens of Pittsburgh's earlier days who were Masons, was Jas. W. Riddle, who published the first directory of the town, Magnus M. Murray who was Mayor in 1828 and 1829.

Wm. Porter, the first iron manufacturer from whose works was organized the first rolling mill at Pittsburgh. Anthony Beelen, who had the first white lead works at Pittsburgh and one of the earliest foundries and was connected as busi-

ness agent with the second glass works. Henry Baldwin, Samuel Pettigrew who was Mayor in 1832. Shepley R. Holmes, Rob't B. Mowery, eminent physicians away back in the twenties and earlier. Judge Sam'l Jones who published the directory of the city in 1826, and was in the banking firm of Sibbitt & Jones. George Miltenberger who was engaged in copper manufacturing in 1807. Morgan Neville, an editor and proprietor on the *Gazette* in 1818. Walter Forward, afterward secretary of the treasury. Patrick McKenna, the famous auctioneer of 1838-9. Chas. Shaler, the eminent lawyer. Francis Bailey, Capt. John Birmingham. It is not intended to compile a directory of Masons, but those names are given to indicate how men, the most active in building the city were among the order. In 1846 the anti-Masonic furor was begun and a bitter warfare was waged against the Masons. It merged into the political organization of the county, and the anti-Masonic party became a power in Pennsylvania, which elected Joseph Ritner governor on the anti-Masonic ticket. Many lodges throughout the land were blotted out, and Lodge No. 45 was the only one at Pittsburgh that survived. The storm past, the order again raised its head and has continued to find favor. There are to-day in Allegheny county thirty lodges where there was but one in 1846, and in the cities of Pittsburgh and Allegheny 2897 members of Craft Lodges.

The Masonic Hall, on Fifth avenue, was destroyed by fire on August 12, 1887, and many historical reminiscences connected with it. It was in it that Jenny Lind sang when at Pittsburgh. In it the Free Soilers held their convention Aug. 12, 1852, at which John P. Hale of New Hampshire was nominated for president and George W. Julian, of Indiana, for vice president. It was a favorite hall for entertainments of the higher order. The hall was dedicated October 19th, 1851, and the corner stone of the new temple was laid with appropriate ceremonies September 11th, 1888, by Joseph Eichbaum, Right Worshipful Grand Master of Pennsylvania.

In Pennsylvania there have been but two Grand Masters selected from west of the Allegheny Mountains, viz., Samuel B. Dick, of Meadville, and Jos. Eichbaum, of No. 219, Pittsburgh, in 1886-8. Geter C. Shidle, of No. 287, is D. D. G. M. of District No. 28, and James S. McKean, of No. 525, D. D. G. M. of District No. 32. James H. Hopkins was Grand Commander of the Grand Encampment of Knights Templar of the United States. Also, James H. Hopkins, Geter C. Shidle, D. W. C. Carroll, and Charles W. Batchelor have severally held the office of Eminent Grand Commander of the Grand Commandery of Knights Templar of Pennsylvania.

The Order of Odd Fellows.

The Order of Oddfellowship began in the city of London in the seventeenth century, its object being both benevolent and beneficial. It had its origin in America in 1819 with Thos. Wildey, when on the 20th of April, 1819, Washington Lodge No. 1 was instituted in Baltimore. It was in the year 1821 the first Lodge was formed in Pennsylvania, December 26th, in Philadelphia. On December 29th, 1828, the Mechanics Lodge No. 9 was located in the city of Pittsburgh, being

the first in Allegheny county, and the first west of the Allegheny mountains. It was instituted June 6, 1829, by Thos. Small, P. G. M., as a special deputy. The first place of meeting is said to have been at the corner of Penn and Hand (now Ninth) streets. In May, 1829, the house in which the Lodge was located took fire and was burned, the Lodge losing its fixtures, regalia, etc. The Grand Lodge regarded it as a calamity to the whole Order, and a committee was appointed to obtain contributions from the Eastern Lodges for its assistance. The Order was at that time poor, and but \$70 was obtained. This act of fraternal kindness brought the Order into favorable notice, and the Lodge was re-established and began to prosper. The Order continues to prosper in Allegheny county, it ranking next to Philadelphia in Lodges, members and wealth.

The Grand Lodge of Pennsylvania is composed of 22,306 Past Grands, and has under its jurisdiction 941 Subordinate Lodges, with a membership of 84,810, who paid for relief during the year 1887 an amount equal to \$51.68⁴₁₀ for each hour in the year,

There are 64 Lodges in Allegheny county, with a membership of 5,176, who paid for relief to 719 members, during the year 1887, the sum of \$28,134.94. Also, 15 Encampments of Patriarchs, with a membership of 607, who paid for relief during the year 1887, the sum of \$2,595. The military branch of the Order is yet in its infancy, Canton Pittsburgh, No. 18, Patriarchs Militant, was mustered in about one year ago, whilst Canton Allegheny will soon be mustered in. There are also seven Degree Lodges of the Daughters of Rebekah, with a membership of about 720, composed of the wives, daughters and sisters of Odd Fellows, whose objects, though similar in purpose, are mainly of a social character.

Of those who have held official positions in the Grand Lodge there were from this county, as Grand Master, Henry Lambert, of No. 475, in 1859-60; Alfred Slack, of No. 241, in 1871-72; John A. Myler, of No. 182, in 1879-80; John W. Haney, of No. 431, in 1887-88. As Grand Patriarch of the Grand Encampment there were from Allegheny county, James A. Sholes, of No. 101, in 1870-71; Edward Jones, of No. 101, in 1877-78; and M. D. Wiley, of No. 101, in 1888. As Grand Representative to the Sovereign Grand Lodge there were from Allegheny county, P. Magee, in 1860-61; Hon. John H. Bailey, in 1866-69; and Alfred Slack, in 1880.

The Odd Fellows' Endowment Association, composed exclusively of Odd Fellows, although a State organization, was projected and organized in Allegheny county in 1878; is conducted on a mutual basis, and has had a successful career, another instance of the pioneer character of the county. It has for its object the payment of \$2,000 upon the death of a member; has now nearly 3,000 members, and has paid to the families of deceased members up to May 1, 1888, the sum of \$271,786, of which amount the sum of \$54,000 was paid during the year 1887. Its first officers were John A. Myler, president; J. H. Elton, treasurer, and Henry Steuernagel, secretary. The latter declined a re-election in 1880, and was succeeded by Geo. C. Johnstone, the present secretary.

Established 1863.

TRADESMENS NATIONAL BANK OF PITTSBURGH.

Wood Street, Cor. Fourth Ave.
Capital, - - - \$400,000.
Surplus, - - - 400,000.

President—A. Bradley.
Vice President—W. Vankirk.
Cashier—Ross W. Drum.

Directors—A. Bradley, Oliver P. Scaife, Wm. Vankirk, W. D. Wood, Sullivan Johnson, Jas. M. Schoonmaker, John C. Risher, John Dunlap, John F. Dravo, Chas. H. Bradley, S. Hamilton.

Established 1863.

FIRST NATIONAL BANK OF ALLEGHENY.

No. 114 FEDERAL STREET.
Capital, . . . \$350,000.
Surplus, . . . 100,000.

President—James McCutcheon.
Cashier—E. P. Kramer.

Directors—James McCutcheon, C. C. Boyle, Geo. W. Cochran, E. Grotzinger, Wm. Harbaugh, Joseph McNaugher, John Ogden, John Thompson.

Established 1875.

THIRD NATIONAL BANK OF ALLEGHENY, PA.

No. 101 FEDERAL STREET.
Capital, - - - \$200,000.
Surplus, - - - 50,000.

President—W. M. McKelvy.
Vice President—R. H. Boggs.
Cashier—H. A. Spangler.

Directors—Henry Warner, W. H. Conley, N. H. Voegty, Thomas Morrow, W. M. McKelvy, W. S. McKinney, Samuel McKnight, David McFerron, R. H. Boggs.

Established 1859.

UNION NATIONAL BANK Cor. Fourth Ave. and Market St., PITTSBURGH.

Capital, - - - \$250,000.
Surplus, - - - 500,000.

President—Robert S. Smith.
Cashier—Charles F. Dean.
Assistant Cashier—Geo. M. Paden.

Directors—R. S. Smith, Wm. Barker, Jr., Addison Lysle, Charles Atwell, J. C. Lappe, A. G. Cubbage, Joseph Horne, Samuel Wilson, Thos. M. Armstrong.

Established 1864.

PITTSBURGH NATIONAL BANK OF COMMERCE,

Sixth Avenue and Wood Street.
Capital, - - - \$500,000.
Surplus, - - - 350,000.

President—Joseph T. Colvin.
Cashier—Chas. I. Wade.

Directors—J. T. Colvin, H. C. Frick, Chas. Lockhart, J. N. Anderson, A. W. Mellon, Wm. Pickersgill, Jr., Sam'l S. Brown, J. W. Arrott, P. C. Knox.

Established 1869.

MASONIC BANK, 531 Smithfield Street, PITTSBURGH.

Capital, - - - \$200,000.
Surplus, - - - 56,000.

President—G. C. Shidle.
Cashier—C. B. McLean.
Assistant Cashier—W. R. Christian.

Directors—Gete C. Shidle, John Caldwell, William C. King, William F. Wilson, John J. Lawrence, Harry P. Dilworth, G. W. Simonds, John M. Kennedy, William McCullough, James A. Sholes, Joseph Eichbaum, John F. Scott, Chas. B. McLean.

Established 1859.

SECOND NATIONAL BANK OF PITTSBURGH.

Cor. Ninth St and Liberty Ave.
Capital, - - - \$300,000.
Surplus and Undivided Profits, 190,000.

President—James H. Willock.
Cashier—Thomas W. Welsh, Jr.

Directors—James H. Willock, Franklin Osburn, G. E. Nieman, George H. Dauler, M. B. Suydam, William McConway, Levi Wade, G. N. Hoffstot, William Curry.

Established 1864.

FOURTH NATIONAL BANK OF PITTSBURGH.

No. 82 FOURTH AVENUE.

Capital, : : : \$300,000.
Surplus, : : : 61,568.

President—James M. Bailey.
Cashier—S. D. Herron, Jr.

Directors—James M. Bailey, John M. Horner, Jacob Porter, Stephen C. McCandless, John B. Jackson, John D. Nicholson, S. D. Herron, Jr.

Established 1870.

MARINE NATIONAL BANK

OF PITTSBURGH.

No. 301 Smithfield Street.

Capital,	.	.	.	\$230,000.
Surplus,	.	.	.	23,366.

President—W. W. O'Neil.

Vice President—B. F. Wilson.

Cashier—W. C. Macrum.

Directors—D. W. C. Bidwell, Wm. France, Geo. S. Griscom, W. Seward B. Hays, Howard Hartley, Jacob Klee, Wm. J. Lewis, Robt. Montgomery, John C. Phillips, C. M. Robinson, J. B. Sneathen.

Established 1882.

COMMERCIAL NATIONAL BANK

OF PITTSBURGH.

No. 97 FOURTH AVENUE.

Capital,	.	.	.	\$300,000.
Authorized,	.	.	.	500,000.
Surplus,	.	.	.	18,000.

President—M. W. Rankin.

Vice President—John W. Herron.

Cashier—H. W. Bickel.

Directors—M. W. Rankin, John W. Herron, H. D. Smith, J. S. Reymer, S. S. Marvin, J. H. Borland, E. A. Myers, R. C. Emery, Henry Warner.

Established 1879.

FORT PITT NATIONAL BANK

OF PITTSBURGH.

No. 79 FOURTH AVENUE.

Capital,	.	.	.	\$200,000.
Surplus,	.	.	.	100,000.
Undivided Profits, July 1, 1888,				53,320

President—D. Hostetter.

Cashier—D. Leet Wilson.

Directors—D. Hostetter, John C. Risher, Samuel Ewart, Robt. H. King, Daniel Wallace, James M. Bailey, Allen Kirkpatrick.

Established 1871.

FIFTH NATIONAL BANK

OF PITTSBURGH.

No. 16 SIXTH STREET.

Capital,	.	.	.	\$100,000.
Surplus,	.	.	.	20,000.

President—Robt. Arthurs.

Cashier—A. C. Knox.

Directors—Robt. Arthurs, Ralph Bagaley, P. C. Knox, Wm. W. Patrick, Jesse H. Lippencott, J. B. Finley.

Established 1884.

KEYSTONE BANK

OF PITTSBURGH.

Office, Petroleum Exchange Building, Fourth Avenue, between Wood and Smithfield Streets.

Capital,	-	-	-	\$300,000.
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President—J. J. Vandergrift.

Vice President—C. W. Batchelor.

Cashier—A. B. Davitt.

Directors—J. J. Vandergrift, R. C. Gray, J. W. Craig, C. W. Batchelor, Henry Fisher, W. H. Nimick, Geo. M. Laughlin, C. F. Kloper, J. I. Buchanan.

Organized 1810.

Chartered 1814.

Capital,	\$1,200,000.
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Surplus Fund, Sept. 12, 1888, \$398,925.44.

BANK OF PITTSBURGH.

FOURTH AVE.

President—John Harper.

Cashier—William Roseburg.

Asst. Cashier—John A. Harper.

Directors—John Harper, Reuben Miller, Robert M. Tindle, William A. Caldwell, Felix R. Brunot, William Thaw, Jr., David Macferron, Daniel Agnew, Andrew D. Smith, John Porterfield.

Established 1866.

THE PEOPLES SAVINGS BANK

OF PITTSBURGH.

No. 81 FOURTH AVENUE.

Capital,	-	-	-	\$300,000.
Surplus,	-	-	-	105,000.

President—Wm. Rea.

Vice President—Thos. Wightman.

Sec'y and Treas.—N. G. Von Bonnhorst.

Trnstees—E. P. Jones, Geo. Wilson, Hon. Edwin H. Stowe, Edward Gregg, Wm. Rea, John A. Caughey, W. J. Moorhead, Thos. Wightman, David McK. Lloyd.

Established 1873.

ANCHOR SAVINGS BANK

OF PITTSBURGH.

No. 134 FIFTH AVENUE.

Authorized Capital,	-	-	\$100,000.
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President—A. M. Brown.

Vice President—John Kelly.

Cashier—Robert J. Stoney.

Directors—A. M. Brown, John Kelly, Geo. W. Schmidt, Col. John Ewing, George Glass, David Steen, Goodman Y. Coulter, Henry Smith, Jas. H. Scott.

Established 1865—Shoenberger Furnaces.
W. H. Shoenberger & Co.

1868.

Shoenberger, Blair & Co.
1883-1888.

SHOENBERGER, SPEER & CO.

Blast Furnaces,
Corner 15th and Pike Streets.

Chas. L. Fitzhugh, Geo. K. Shoenberger,
John Z. Speer, John H. Shoenberger,
G. A. Steiner, Special Partners.
General Partners.

Established 1814—Allen & Grant.

1840. 1815.

M. Allen & Son. M. Allen & Co.
1850-1888.

Alex. Nimick. Geo. P. McBride.
John S. Slagle.

NIMICK & CO.

IRON COMMISSION,

96 Water Street, Pittsburgh.

Established 1842.

Elms & Chess, afterwards Campbell & Chess.
1854. 1860.

Chess, Wilson & Co. Chess, Smythe & Co.
1880-1888.

Henry Chess. Walter Chess. Harry B. Chess.
Thos. McK. Cook. Geo. R. Lawrence.

CHESS, COOK & CO.

Nails, Tacks, Expanded Metal,

116 Water Street, Pittsburgh.

Established 1882.

REPUBLIC IRON WORKS, Limited,

Manufacturers of

Black & Galvanized Sheet Iron,

25th Street, S. S., Pittsburgh.

E. C. CONVERSE, Chairman.
HORACE CROSBY, Treas. and Gen'l Manager.

Novelty Works Variety Works
Established 18—. Established 1857.

18—.

Jones, Wallingford & Co.
1857.

Jones-Nimick Manufacturing Co.
1872.

Jacobus & Nimick Manufacturing Co.
1882-1888.

NIMICK & BRITTAN MF'G CO.

Builders' Hardware, Pad Locks,

Office, 411 Wood St., Pittsburgh.

ALEX. NIMICK, President.

ARTHUR BRITTAN, General Manager.

GLENDY S. GRAHAM, Sec'y and Treas.

Established 1828.
1845. Then
Freeman & Miller. Miller, Lloyd & Black.
1851.
Lloyd & Black.
1874-1888.

H. LLOYD, SON & CO.

BAR, SHEET AND BOILER IRON,

Second Ave., above Try, Pittsburgh.

Henry Lloyd, John W. Loyd, Wm. F. Lloyd.
Henry Balken.

McKEESPORT ROLLING MILL.

Established 1851. 1871.
W. Dewees Wood. W. D. Wood & Co.
1884-1888.

W. D. WOOD & CO., Limited,

Manufacturers of Patent

PLANISHED SHEET IRON,

111° Water Street, Pittsburgh.

W. D. Wood. Allan W. Wood.
Rich. D. Wood. Thos. W. Wood

Established 1868.

McCONWAY, TORLEY & CO.

Manufacturers of

MALLEABLE IRON CASTINGS,

AND THE

JANEY COUPLER.

Forty-Eighth Street and A. V. R. R.

PITTSBURGH, PA.

Established 1878.

PITTSBURGH BRIDGE CO.

Manufacturers of

HIGHWAY BRIDGES,

Railway and Structural Iron Work.

38th St. and A. V. R. R., Pittsburgh.

Established 1802—Jeffrey Scaife.
1834. 1838.
Wm. B. Scaife & Co. Wm. B. Scaife.

1849.

Scaife & Atkinson.

1850.

Scaife, Atkinson & Oakley.

1853.

Wm. B. Scaife.

1863-1888.

WM. B. SCAIFE & SONS,

Structural Iron Work, Roofing, &c.

Office, 119 First Avenue.

Oliver P. Scaife. Chas. C. Scaife.
Marvin F. Scaife.

BRANCH OFFICES OF THE CARNEGIE
ASSOCIATIONS.

48 FIFTH AV., PITTSBURG, PA.

BLAST FURNACES.

{ Edgar Thomson Furnaces, 7 Stacks.
Bessemer Station, Allegheny County, Pa.
Lucy Furnaces, 2 Stacks.
51st and Railroad Streets, Pittsburg.

**IRON AND STEEL
ROLLING MILLS.**

{ Upper Union Mills, 8 Trains Rolls.
33d Street and A. V. R. R., Pittsburg.
Lower Union Mills, 5 Trains Rolls.
29th Street and A. V. R. R., Pittsburg.
Homestead Steel Works, 6 Trains Rolls.
Munhall Station, P. V. & C. R. R., Pa.
Hartman Steel Works, 4 Trains Rolls.
Beaver Falls, Pa.

**BESSEMER
STEEL WORKS.**

{ Edgar Thomson Steel Works, 3 10-Ton Converters.
Bessemer Station, Penn'a R. R.
Homestead Steel Works, 2 5-Ton Converters.
Munhall Station, P. V. & C. R. R.

**OPEN HEARTH
STEEL WORKS.**

{ Homestead Steel Works, 3 25-Ton Furnaces.
Munhall Station, 1 20 " "

STEEL RAIL MILL.

{ Edgar Thomson Steel Works, 1000 Tons Rails per day.
Bessemer Station, Pa.

ARMOR PLATE MILL. { Homestead Steel Works,
Munhall Station, Pa. } Armor Plates, Slabs,
Heavy Shafting.

BRIDGE WORKS. { Keystone Bridge Works,
51st and Harrison Streets, Pittsburgh.
} 20,000 Tons Material,
Equal to 10 Miles Bridge
Work per annum.

WIRE MILLS. { Hartman Steel Works,
Beaver Falls, Pa. } 100 Tons Wire per day.

WIRE NAIL FACTORIES. { Hartman Steel Works,
Beaver Falls, Pa. } 20,000 Kegs Wire Nails
per month.

ORE MINES. { Scotia Ore Mines,
Centre County, Pa. } 75,000 Tons Hematite
Ore per annum.
{ American Manganese Co., Ltd. } 20,000 Tons Manganese
Crimora, Va. Ore per annum.

COKE OVENS. { Larimer Coke Works,
Carnegie Station, Penn'a R. R. } 300 Ovens.
{ Youghiogheny Coke Works,
Douglas Station, P., McK. & Y. R. R. } 200 Ovens.

NATURAL GAS LINES { Carnegie Natural Gas Co.
To Murrysville and Grapeville Fields. } 50 Miles Lines,
15 Producing Wells.

ENAMEL WORKS. { American Enamel Co., Limited,
Beaver Falls, Pa. } R. R. Station and
Street Signs.

Established 1824.
Peter Shoenberger.

183-.
Peter Shoenberger & Son.
1836.
G. & J. H. Shoenberger & Co.
1863-1888.

SHOENBERGER & CO.

Manufacturers of
STEEL & IRON.

15th and Etna Streets,

PITTSBURGH, PA.

Charles L. Fitzhugh,
John Z. Speer,
G. A. Steiner,
Geo. K. Shoenberger,
John H. Shoenberger,
} General Partners.
} Special Partners.

Established 1852.

1852. 1854.

Jones, Lauth & Co. Jones & Laughlin.

1883-1888.

JONES & LAUGHLIN, LT'D.,

Manufacturers of

IRON AND STEEL,

Nails, Cold Rolled Shafting,

Cor. Try St. & Third Av., Pittsburgh.

B. F. Jones, Chairman.

Geo. M. Laughlin, Thos. M. Jones,
Sec. & Treas. General Mangr.

Established 1865.

MILLER, METCALF & PARKIN

CRESCENT STEEL.

Office, 136 First Av. Pittsburgh, Pa.

New York, 480 Pearl Street.
Chicago, 64 & 66 S. Clinton St.

Reuben Miller. Wm. Metcalf. Chas. Parkin.

Established 1829—M. S. Meason.

Then Then
Miltenberger & Brown. Bailey, Brown & Co.
Then

BROWN & CO.

IRON AND STEEL,

Tenth St. and Duquesne Way,

John H. Brown,
J. Stewart Brown, PITTSBURGH.
Henry Graham Brown.

Established 1859—Hussey, Wells & Co.

1876.
Hussey, Howe & Co.

1880.
Hussey, Howe & Co., Limited.

1888.

HOWE, BROWN & CO., Limited

CAST STEEL,

Seventeenth and Penn Avenue.

Established 1863. 1879.

Jas. P. Witherow. Witherow & Gordon.

1884-1888.

JAS. P. WITHEROW,

Engineer and Contractor,
Furnace and Steel Works Construction,
LEWIS BLOCK,
Sixth Ave. and Smithfield St., Pittsburgh.

Established 1869.

1869. 1870.

Wm. Clark. Wm. Clark & Co.
1887-1888.

WM. CLARK'S SON & CO.

Manufacturers of
IRON AND STEEL.
HOOPS AND BANDS.

Cor. 35th and Charlotte, Pittsburgh.

Established 1872.

P. D. NICOLS,

Agent and Dealer in
IRON, STEEL, ETC.

No. 8 Wood Street,

PITTSBURGH, PA.

Established 1848.

SINGER, NIMICK & CO. LT'D.,

Manufacturers of
STEELS,

No. 83 Water Street, - Pittsburgh.

Wm. H. Singer, Chairman.
Geo. Singer, Jr., Sec. & Treas.

Established 1862.

PITTSBURGH BANK FOR SAVINGS

No. 60 Fourth Avenue.

Assets, July 1st, 1888,	- \$1,795,162.00
Capital Stock paid in,	- 75,000.00
Surplus Fund,	- 75,000.00
Undivided Profits,	- 16,390.43

President—Geo. A. Berry.

Vice Pres'ts—Alex. Bradley and R. C. Schmertz.
Sec'y and Treas.—Charles G. Milnor.

Board of Managers—Geo. A. Berry, H. C. Bughman, T. C. Lazear, Geo. A. Kelly, Alex. Bradley, Chas. F. Wells, Frank Rahm, L. M. Plumer, R. C. Schmertz, Jas. Laughlin, Jr., Jacob Painter, Jr., John Scott, Jas. L. Graham, J. K. Dorrington, C. G. Milnor.

Established 1881.

IRON AND GLASS

DOLLAR SAVINGS BANK

No. 1115 Carson Street, S. S.

Capital, - - - \$100,000.

President—Thomas B. Atterbury.

Cashier—Henry Stamm.

Assistant Cashier—John Dunwoody.

Directors—T. B. Atterbury, Daniel Wenke, John Gallaher, F. Baxmyer, E. P. Logan, Chas. Poth, John Davies, M. Kimmel, W. J. Lewis, Robt. McDonald, Thomas Evans, Geo. A. Macbeth, James E. Duncan.

Established 1866.

LAWRENCE SAVINGS BANK

OF PITTSBURGH.

Cor. Penn Ave. and Butler St.

Capital, \$80,000.

Surplus, 50,000.

President—W. W. Young.

Cashier—John Hoerr.

Directors—W. W. Young, A. H. Ahlborn, Jas. B. Young, Thos. B. Stewart, Sam'l McMahon, Wm. Flaceus, John C. Kirkpatrick, Geo. McKee, John Hoerr.

Established 1884.

JOHN M. OAKLEY & CO.

BANKERS AND BROKERS,

Member Chicago Board of Trade,

Member Pittsburgh Oil Exchange,

45 Sixth Street.

1888.

Established 1849 by Patrick & Friend.

1854-1888.

R. PATRICK & CO.

BANKERS,

No. 52 Fifth Avenue,

PITTSBURGH, PA.

Established 1859 by Semple & Jones.

1888.

W. R. THOMPSON & CO.

BANKERS,

Corner of Fourth Ave. and Wood St.

PITTSBURGH.

Established 1821.

N. HOLMES & SONS,

BANKERS,

309 Market Street,

PITTSBURGH.

1888.

Established 1869.

T. MELLON & SON,

BANKERS,

512 Smithfield Street,

PITTSBURGH.

1888.

Established 1882.

REA BROS. & CO.

BANKERS AND BROKERS,

425 Wood St., Pittsburgh, Pa.

Members of New York, Philadelphia and Pittsburgh Stock Exchanges. Private wires to New York and Philadelphia.

1888.

Established 1857.

ALLEGHENY NATIONAL BANK OF PITTSBURGH.

No. 45 FIFTH AVENUE.

Capital, - - - \$500,000.
Surplus, - - - 160,000.

President—W. McCandless.

Vice President—Joshua Rhodes.

Cashier—F. C. Hutchinson.

Directors—W. McCandless, Joshua Rhodes, John Caldwell, Jr., B. H. Rubie, William Stewart, Thos. Evans, James McGregor, J. McM. King, Walter Chess.

Established 1851.

CITIZENS NATIONAL BANK OF PITTSBURGH,

Cor. Wood and Diamond Streets.

Capital, - - - \$800,000.
Surplus, - - - 175,000.

President—George A. Berry.

Cashier—R. K. Wilson.

Directors—George A. Berry, Jno. C. Risher, Frank Rahm, Wm. McCreery, H. C. Bughman, Wm. B. Negley, Robert Pitcairn, Geo. W. Dilworth, A. C. McCallam.

Established 1836.

THE EXCHANGE NATIONAL BANK OF PITTSBURGH.

Fifth Avenue, between Wood and Market Sts.

Capital, - - - \$1,200,000.
Surplus, - - - 400,000.

President—Mark W. Watson.

Vice President—John H. Dalzell.

Cashier—Andrew Long.

Directors—Mark W. Watson, John H. Dalzell, John H. Shoenberger, Frank S. Bissell, Calvin Wells, C. B. Herron, J. P. Hanna, H. S. McKee, John B. Jackson, J. W. Dalzell, W. H. Singer, Jas. W. Brown, M. K. Moorhead.

Established 1852.

FIRST NATIONAL BANK OF PITTSBURGH.

Cor. Wood Street and Fifth Ave.

Capital, - - - \$750,000.
Surplus, - - - 150,000.

President—Alexander Nimick.

Cashier—J. D. Scully.

Assistant Cashier—Chas. E. Speer.

Directors—Alexander Nimick, Robt. S. Hays, J. H. McKelvy, Thos. Wightman, Jas. S. McCord, J. H. Lindsay, John Wilson, Harry Brown, Jas. Laughlin, Jr.

Established 1860.

GERMAN NATIONAL BANK OF PITTSBURGH.

Cor. Wood Street and Sixth Ave.

Capital, - - - \$250,000.
Authorized Capital, - 500,000.
Surplus, - - - 390,000.

President—A. Groetzinger.

Cashier—Jos. Laurent.

Directors—A. Groetzinger, E. H. Myers, H. H. Nieman, P. Haberman, E. Frauenheim, Martin Lappe, Christian Siebert, John F. Havekotte, Jos. Vogel, Sr.

Established 1857.

IRON CITY NATIONAL BANK OF PITTSBURGH.

No. 74 FOURTH AVENUE.

Capital, - - - \$400,000.
Surplus Fund, - - - 250,000.

President—Alex. M. Byers.

Cashier—Oliver Lemon.

Directors—Alex. M. Byers, James Herdman, E. M. Byers, Lewis Irwin, S. Lindsay, Jr., W. W. Speer, J. B. D. Meeds, J. Kidd, Fleming, Jno. R. McGinley, J. D. Layng, Chas. L. Cole, Wm. N. Frew, Jas. H. Reed.

Established 1833.

Merchants and Manufacturers NATIONAL BANK

OF PITTSBURGH.

No. 61 FOURTH AVENUE.

Capital, - - - \$800,000
Surplus and Undivided Profits, - 103,000.

President—E. M. Ferguson.

Cashier—W. A. Shaw.

Directors—E. M. Ferguson, George A. Kelly, Henry Lloyd, H. Sellers McKee, John E. Hurford, R. P. Wallace, John Caldwell, James A. Chambers, Thos. D. Messler.

Established 1864.

THIRD NATIONAL BANK OF PITTSBURGH.

Cor. Wood Street and Virgin Alley.

Capital, - - - \$500,000.
Surplus Fund, - - - 225,000.

President—W. E. Schmertz.

Cashier—W. Steinmeyer.

Assistant Cashier—Ogden Russell.

Directors—W. E. Schmertz, John Daub, A. C. Dravo, Jas. T. Hamilton, B. Wolff, Jr., John M. Kennedy, Geo. D. McGrew, H. Dallmeyer, Chas. F. Wells.

Established in 1867 by George B. Hill.
1872-1888.

Geo. B. Hill. Wm. I. Mustin.
John D. Nicholson.

GEO. B. HILL & CO.

Dealers in all kinds of

BONDS AND BANK STOCKS 111 Fourth Avenue.

Established in 1871 by George I. Whitney.

1884-1888.

WHITNEY & STEPHENSON, BROKERS,

Members New York Stock Exchange,

59 Fourth Ave., Pittsburgh.

Geo. I. Whitney. Frank L. Stephenson.

HENRY M. LONG, BROKER IN Stocks, Bonds, Mortgages AND REAL ESTATE, Office, No. 67 Fourth Avenue, PITTSBURGH, PA.

Established 1849.

WESTERN INSURANCE CO. OF PITTSBURGH.

Capital, - - - \$300,000.00.

Surplus, - - - \$439,410.50.

411 Wood Street.

President—Alex. Nimick.

Vice Pres't—John B. Jackson.

Secretary—Wm. F. Herbert.

Directors—Alex. Nimick, Reuben Miller, Jr., John R. McCune, Chas. J. Clarke, Wm. S. Evans, Philip Reymer, H. Sellers McKee, John B. Jackson, Edwin S. Stowe, Jas. S. Atterbury, Jas. A. McDevitt, Wm. N. Frew.

Established 1854.

ALLEGHENY INSURANCE CO. OF PITTSBURGH.

Capital, - - - \$100,000.00.

Net Surplus, - - - \$52,626.20.

67 FOURTH AVE.

President—Charles Hays.

Vice Pres't—James S. McCord.

Secretary—C. G. Donnell.

Directors—Charles Hays, Jas. S. McCord, C. G. Hussey, John Irwin, Jr., Geo. W. Cochran, W. H. Everson, Jas. B. Oliver, Jos. T. Speer, Capt. Jas. W. Porter, Thomas H. Lane, John H. Niemann, Hon. J. F. Slagle.

Organized May, 1872.

ARMENIA INSURANCE CO. OF PITTSBURGH.

Cash Capital, - - - - - \$250,000.

65 Fourth Ave.

President—S. S. D. Thompson.

Secretary—W. D. McGill.

General Agent—E. E. Stewart.

Directors—S. S. D. Thompson, John D. Scully, A. S. M. Morgan, J. G. Wainwright, J. C. Lewis, John Heath, Wm. T. Dunn, Jas. S. McCord, Andrew Miller, M. G. Clark, Edward O'Neil, Frank E. Heath, W. S. McKinney, F. Gwinner, Jr., W. D. McGill, W. W. Speer, I. N. Patterson, Adam Wiese, Jos. P. McIntire, John H. Stotz, P. H. Ittel.

Established 1866.

ARTIZANS INSURANCE CO. OF PITTSBURGH.

Capital, - - - - - \$100,000.

Third Av. and Wood St.

President—A. J. Barr.

Vice Pres't—John Dunlap.

Secretary—Chas. P. Smith.

Directors—John Dunlap, A. Garrison, Jos. H. Borland, H. H. Smith, J. B. D. Meeds, J. J. Donnell, A. J. Barr, Sullivan Johnston, E. A. Myers, Daniel McKee, E. Z. Smith, A. L. Bailey.

Incorporated 1865.

Manufacturers and Merchants Insurance Company,

OF PITTSBURGH.

Capital, - - - - - \$250,000.00.

Assets, July 1, 1888, - \$362,629.13.

President—James I. Bennett.

Vice Pres't—John W. Chalfant.

Secretary—William T. Adair.

Directors—Jas. I. Bennett, John W. Chalfant, A. E. W. Painter, Robert Lea, M. W. Watson, John Wilson, Joseph Walton, C. W. Batchelor, Wm. G. Park, A. M. Byers, Jacob Painter, Jr.

Established 1851.

PITTSBURGH INSURANCE CO.

Wood and First Avenue.

Capital, - - - - - \$100,000.00.

Surplus, - - - - - \$157,370.29.

President—Chas. Arbuthnot.

Vice Pres't—John Fullerton.

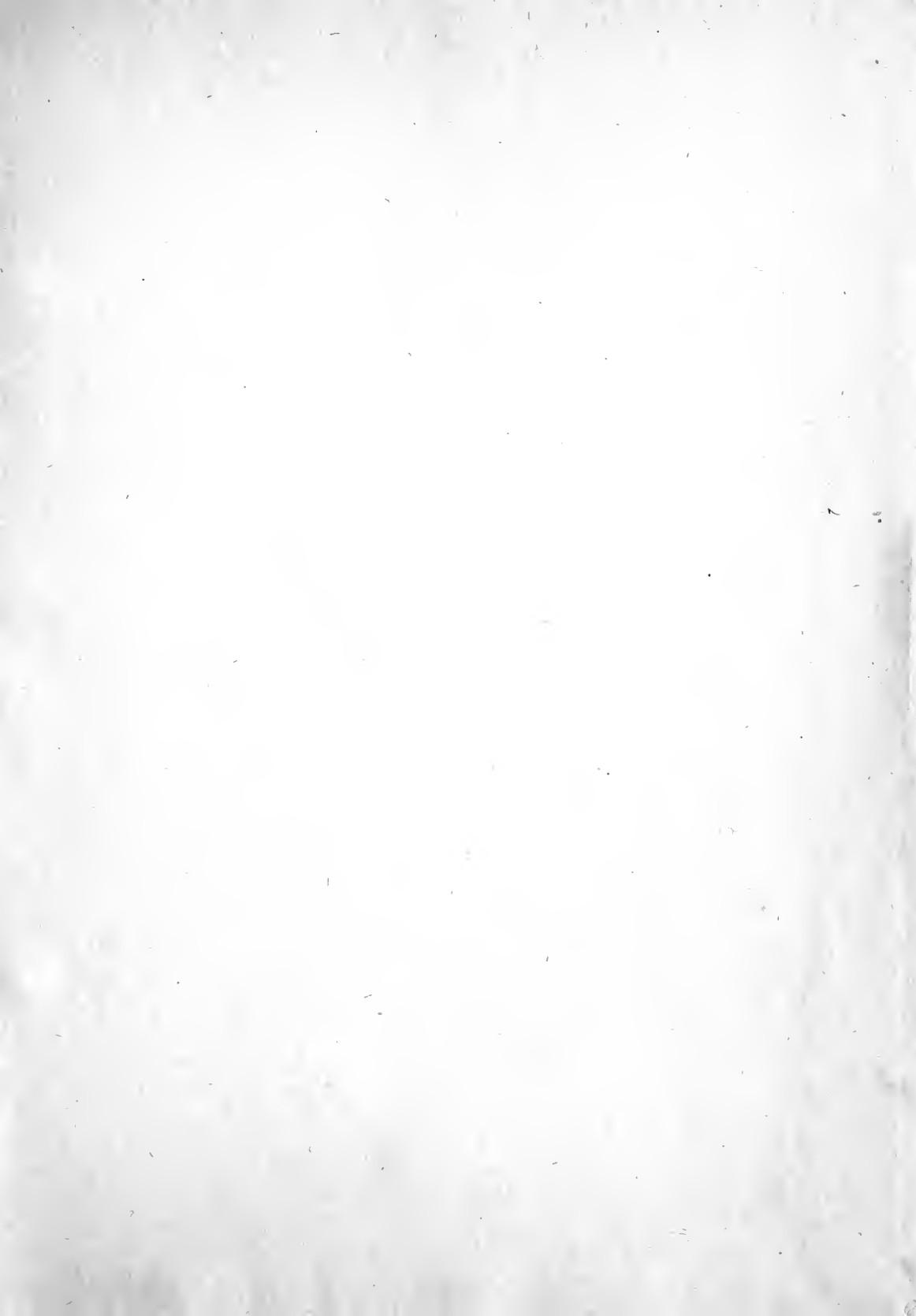
Secretary—Hillis McKown.

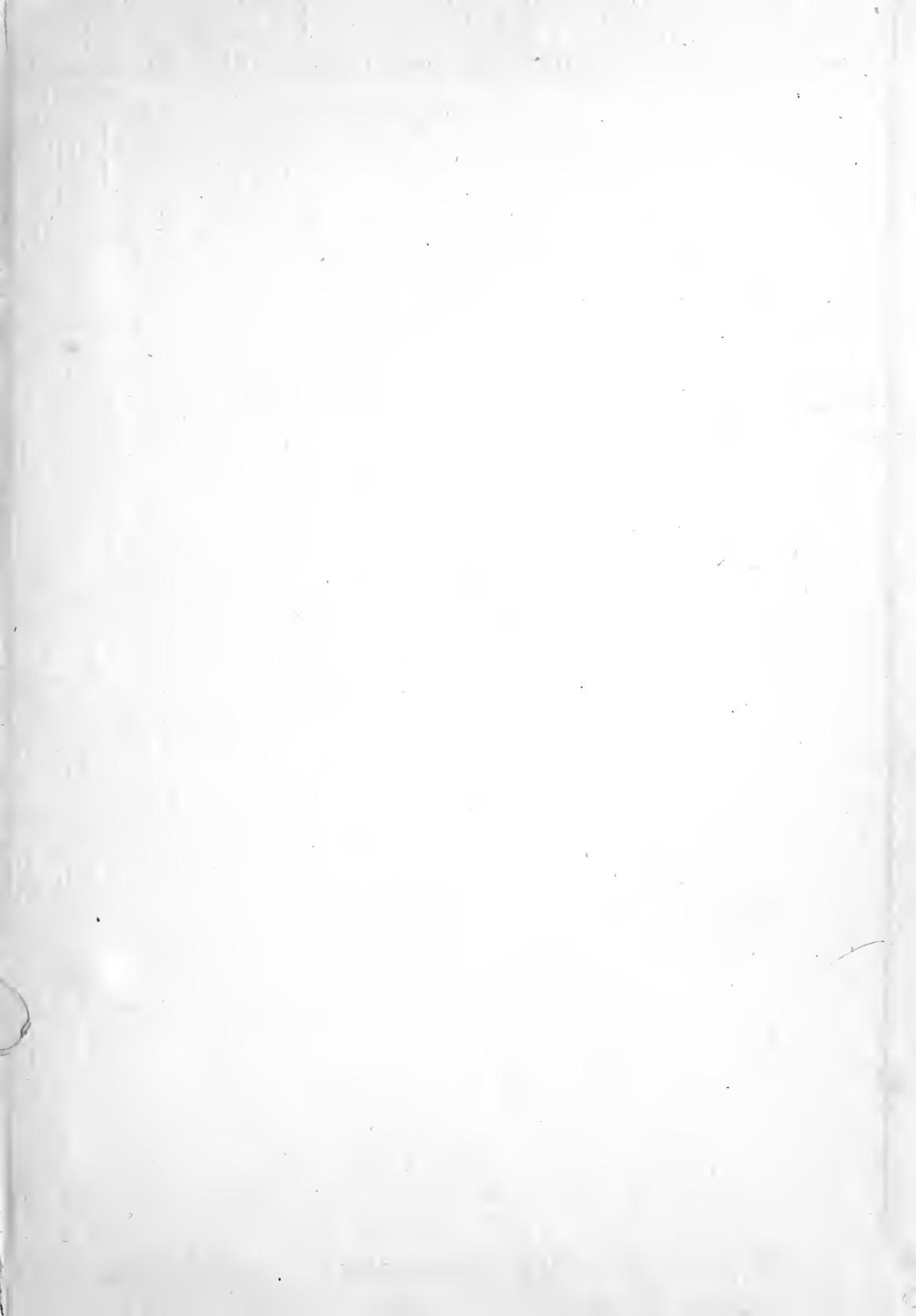
Directors—Chas. Arbuthnot, James Gordon, Max. K. Moorhead, Allen Kirkpatrick, James S. McCord, John Daub, Hillis McKown, John Scott, Alexander Bradley, John Fullerton, Henry Lloyd, James McCutcheon, R. J. Wilson, Col. Jas. Collard.

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